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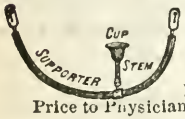

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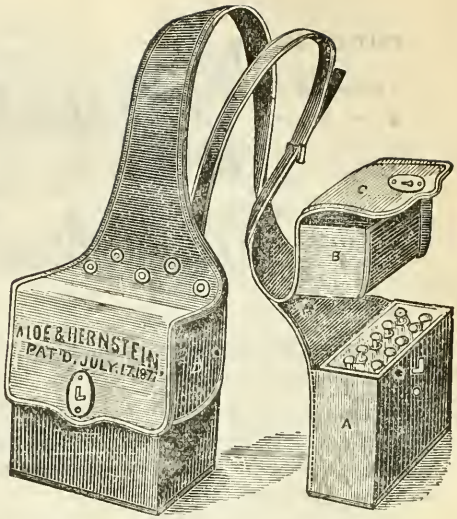

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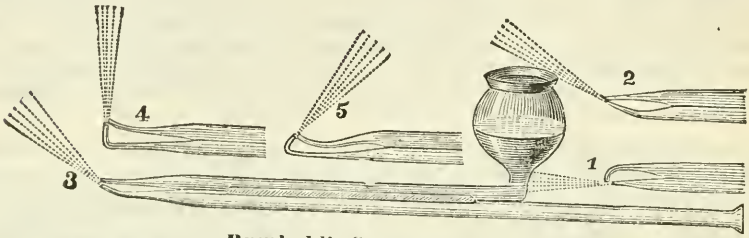

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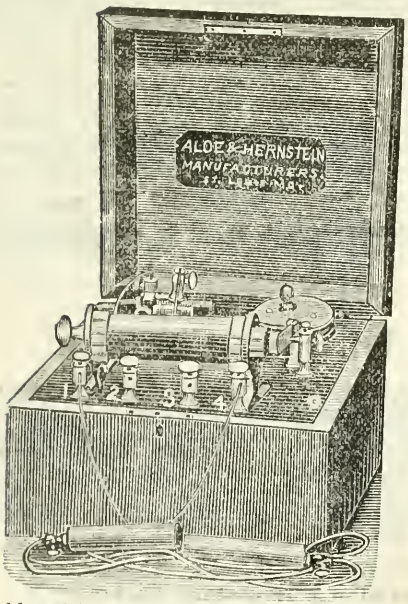

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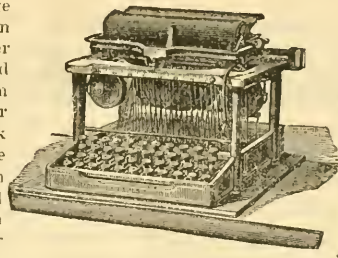

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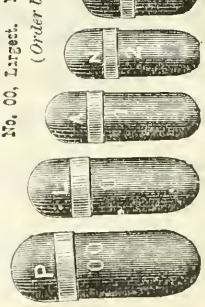

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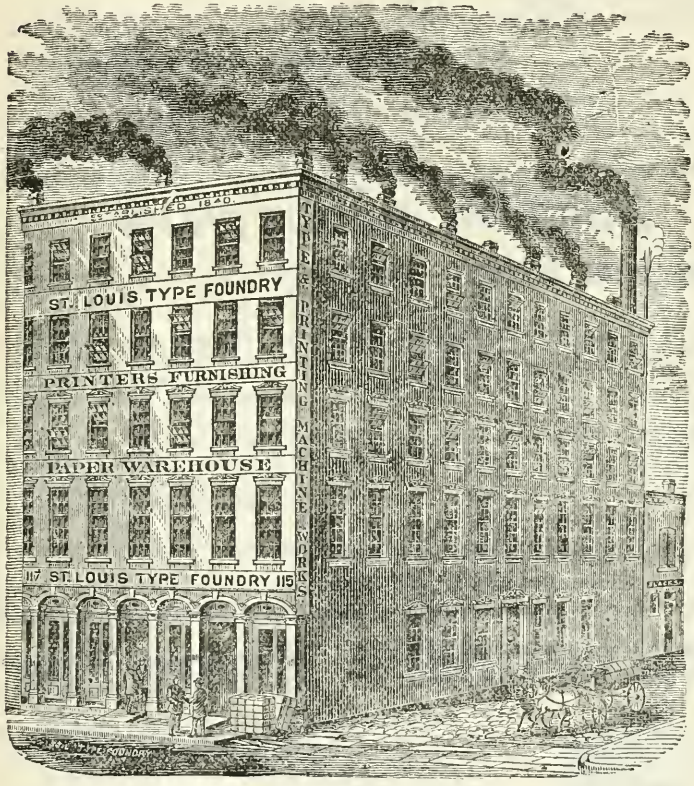

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Original Contributions.

ARTICLE V.

A CASE OF SCARLET FEVER, SHOWING A DEFINITE PERIOD OF INCUBATION OF TWENTY-ONE DAYS.

BY DAVID PRINCE, M. D., of Jacksonville, Ill.

On the first day of June, 1880, the family of Mr. R. entertained visitors from thirty miles away for a single night. It had been the custom for Mr. R. and one child to sleep in one of two beds in a room and for Mrs. R. and her daughter, Katy, to sleep in the other.

On this night this room was given up to the visitors, who occupied it a single night.

The visiting mother and a little child occupied the bed ordinarily occupied by Katy and her mother.

On leaving, the visiting mother casually remarked that her child was two weeks recovered from scarlet fever.

Mrs. R. and her daughter re-occupied their bed without changing the sheets, and both continued well until the 21st day of June, when little Katy, five years of age, exhibited a rash attended by fever. Such was the resemblance to the rash of scarlet fever, that inquiry was made for any occasion of contagion, and it was not until the next day that Mrs. R. recalled the

remark of her visitor that her child was two weeks recovered from scarlet fever. The case pursued the usual course, there being sore throat with subsequent suppuration on one side, the temperature rising to 104° F.

Diligent inquiry was made with regard to the possibility of any other source of contagion and none could be found. Whether the recovered child communicated the disease through the emanations of her own body or through clothing which may have concealed the germs, it is impossible to say. In either case, it is established that the danger of infection lasts longer than is generally supposed, and a definite period of three weeks incubation is established for a single case. If the incubation may be prolonged to this extent in a single case, and after all the appearances of the disease have disappeared, the same may occur in thousands of other cases.

Except for the casual remark of the visitor on taking leave, the origin of the case would have forever remained a mystery.

It may be remarked that the treatment of the case was based upon the theory of a germ poison as the basis of the fever. The bowels were kept open by fl. ext. senna combined with aromatis. During the acute stage of the disease I gave a teaspoonful every half hour and afterward every hour of the following mixture: Place in a dry bottle one grain of chlorate of potash and one cubic centimeter of strong hydrochloric acid. On the development of fumes add water, one hundred and twenty cubic centimeters. Shake in order to secure an absorption of the fumes, and add 120 c. c. of syrup. Finally add of tincture of chloride of iron 4 c. c. The mixture to be well shaken and well corked.

The surface was kept well rubbed with unguentum petrolei, and at the times of the highest temperature the body was encircled for periods not exceeding half an hour with a folded wet sheet.

Had there been fetor of the breath a spray of Lugol's solution would have been employed.

This statement of treatment is incidental. The particular occasion for reporting the case is the period of the incubation.

Previous to this experience, I should have said that a person must be safe after an exposure of twenty days. Our patient was apparently well the 20th day, but on the 21st was sick with scarlet fever.

Article VI.

The Method of Air-Supply to the Middle Ear; the Density of the Air in this Cavity; the Cause of the Uniform Concavity of the Membrana Tympani, and the Functions of the Eustachian Tube.* By Thos. F. Rumbold, M. D., of St. Louis.

The generally accepted theory of the method by which the air is supplied to the middle ear is that which was first promulgated by Mr. Joseph Toynbee F. R. S. in 1853, namely: that the walls of the Eustachian tube are in contact when at rest, but that they are drawn apart by the tensor and levator palati muscles at every act of deglutition to such an extent that the "air can either enter or recede from the tympanic cavity," *thus* maintaining a tympanic air density *equal with the surrounding atmosphere.* The proof that he and all others adduce in support of this theory, is the fact that the act of deglutition relieves the prominent symptoms and the main disability to the hearing, that is occasioned by forcible inflation of the tympanic cavity by holding the nostrils closed while air is driven from the lungs into the ears. This theory is still held by Tröltsch, Politzer, Gruber, Hinton, Roosa, Williams, Flint, Rüdenger, Foster and every author, that I have read, who has expressed an opinion on the subject.

Roosa, in his work on the "Ear," page 213 says: "The known functions are to *conduct away* [1] the secretions of the cavity of the tympanum, and to act as a ventilator of this part."

Prof. Rüdinger of Munich in Stricker's Manual of Histology page 971, says: "In addition to *conducting away* [1] its own secretion and that of the vascular mucous membrane of this cavity, it is also able to produce a ventilation of the cavity by means of the mechanism which it contains."

He certainly, at this time, is in doubt as to the function of Eustachian tube, for he says: "Whether the Eustachian tube

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*From advance sheets of "The Hygiene and Treatment of Catarrh" [now in press]; 12 mo. pp. 500. [Geo. O. Rumbold & Co.]

1. Italicized by the author.

plays an important physiological rôle in the conduction of sound in the tympanum, and whether it has any connection with the voice, and if so, what there is, cannot be satisfactorily answered from the study of its comparative morphology. The final determination of these questions must remain for experimental investigations."

Foster in his last edition on Physiology, 1880, page 739 states that "the Eustachian tube serves to maintain an *equilibrium*[1] of pressure between the external air and that within the tympanum, and to serve as an *exit for the secretions* [1] of that cavity."

The "Eustachian tube is undoubtedly *open during swallowing*,[1] but it is still disputed whether it remains permanently open, or is opened only at intervals."

Since the year 1868 and up to the present time, I have had very frequent opportunities of examining patients afflicted with abnormally open and abnormally closed Eustachian tubes. Observations made on these patients have led me to come to conclusions that differ very materially from those entertained by Physiologists and Otologists of the present day, 1st, on the method by which air is supplied to the middle ear; 2nd, on the density of the air within this cavity; 3d, on the cause of the uniform concavity of the membrana tympani; 4th, on the functions of the Eustachian tube.

In August, 1868, I gave to Prof. John T. Hodgen, as my views on this subject, that Toynbee, Tröltsch, Roosa and others were in error when they said that the supply of air to the middle ear took place *only* during the act of deglutition, and that observations made up to that time, had proved conclusively to me that air *continuously* entered the middle ear; also, that the air in the middle ear was always in a *rarefied* condition. In September of the same year I read to Prof. Hiram Christopher the cardinal points of this subject contained in this and the two succeeding chapters. Subsequent to this time I very frequently gave my views in full and read my paper on this subject, and gave it to be read by a large number of friends, among them Dr. David Prince, of Jacksonville, Ill., and Dr. Homer Judd, formerly of this city.

Although perfectly satisfied that my conclusions were cor-

1. Italicized by the author.

rect, yet I did not read them before the St. Louis Medical Society until the fall of 1872. In these days of rapid medical progression, it is not safe nor best to wait so long a time before making public new physiological facts, but as what I was to announce differed so materially from the theories of those in whom the profession had great confidence, I hesitated to contrast my views with their learned and matured opinions, and were it not that I had then tested my conclusions through a period of nearly five years I would not, even at that time, have presumed to have disputed their opinions on such an important subject.

The following are the series of conclusions that I arrived at from observations made on my cases and read before the Society:

1st. That during the act of deglutition the Eustachian tube is not an open passage into the tympanum.

2nd. That the walls of the Eustachian tube are constantly in slight contact.

3rd. That the air continuously permeates the Eustachian tube into the tympanic cavity.

4th. That the air in the normal tympanic cavity is not of equal density with that of the surrounding atmosphere, the air in the tympanum being rarefied.

5th. That one of the functions of the Eustachian tube, maybe the principle one, is the maintenance of this inequality of air density.

6th. That the rarefied condition of the air in the tympanum is the cause of the uniform concavity of the membrana tympani.

7th. That a certain degree of uniform pressure on the fluid in the internal ear by means of the membrana tympani and the small bones of the ear is essential to normal hearing.

I will now relate the cases from which I made the observations that led me to come to these conclusions. I have, since that time, had so many similar cases in my practice, that I am sure that they cannot be considered as uncommon in the practice of any specialist.

We cannot make experiments on the Eustachian tube by instrumental means, without incurring great risk of doing injury to this very important passage, but it is sometimes abnormally open, at other times abnormally closed. As the disability arising from these opposite conditions can be temporarily overcome, so that the hearing may be increased equal to or beyond

the patient's usual acuteness, we have excellent opportunities of judging what is the normal state of this passage, the normal air density within the tympanic cavity, and the cause of the uniform concavity of the membrana tympani. Knowing these, we can easily determine what are the functions of the tube itself.

The prolixity of the cases cited will be justified by the valuable information they shed on this rarely mentioned, yet really important subject.

I take it that the following is a fair deduction: If the Eustachian tube is opened into the middle ear by the tensor and levator palati muscles for normal ventilation of this cavity at every act of deglutition, then anything that might open this tube, *aside* from the action of the muscles mentioned, would not, on account of this opening, be a cause of defective hearing.

From the symptoms observed in the following cases who had autophony, or an abnormally increased volume of their own voice, heard through the open Eustachian tube, it is expected to prove that the mere opening of this tube, for a short or long period of time, is a cause of too great a disability to the organ of hearing, to admit of its being open during the act of deglutition, without producing some if not all of the same phenomena; and that while the Eustachian tube is in a patent or abnormally open condition, the membrana tympani is less concave than normal.

CASE IX.—Feb. 5th, 1868.—Otto Z———, German, æt. about 38 years, farmer, from Columbia, Mo., applied to be relieved from excessive noise in his left ear while talking. He had been deaf in this ear since 1862; he supposed that it was occasioned by long exposure in the woods. This phenomenon in the left ear first appeared eight days ago, and with it considerable increase of deafness and a sensation of fullness, or as if he had something in the ear. He hears his voice in this ear first. It would not be exactly correct to say that he heard all of his words at separate intervals, but they lap one upon another, producing quite a confusion of sounds. When pronouncing one short sound quickly, as "ah," through the nose, there was no lapping, but two sounds, one following the other in instant succession; the first sound in a strong, hollow, deep tone immediately in this ear; the second one in the ordinary tone, and heard from without. Several nights ago he was awakened from sleep by a blowing sound in this ear, no doubt occasioned by his respiration, as it occurred only during expiration.

On inspection of the membrana tympani of the left ear, the concavity was found to be slight. I will say that the curvature

was not so remarkable for shallowness as to attract my attention even during the first two days' examination. It was not until I had made up my mind that the tube was abnormally open that I noticed the great contrast between this, and that of the right ear. The hearing distance with the watch with right ear was $\frac{36}{96}$, left $\frac{c}{96}$. On examination of the pharyngo-nasal cavity, it was found coated by a large accumulation of offensive muco-purulent secretion, the whole mucous membrane being affected with a chronic inflammation. The mouth of each Eustachian tube was quite large and much congested.

While examining his left ear he twice asked me if I could not hear him talk through it; the sound of his voice in this ear was so loud to himself that he thought others must hear it also.

The posterior nares syringe was used with warm salt water (℥j-Oj) to clean out the offensive secretion above and behind the soft palate. The first injection washed out a large quantity of this matter. After the recovery from the choking sensation occasioned by this injection, he found, upon answering a question, that the sound of his voice in the left ear had disappeared. It required nearly one quart of water to clear out the pharyngo-nasal cavity.

Feb. 6th.—The sound of his voice in the left ear was absent for nearly two hours after the last treatment, returning after he had used his handkerchief to blow his nose. The posterior nares was again washed out, using about half a pint of warm salt water. The first syringeful again stopped the phenomenon.

Feb. 7th.—The sound of his voice in this ear did not return for three hours after the last treatment, happening this time without any known cause. Last night he was again awakened by the blowing sound in this ear; this is still present. As the patient insisted on my listening to it, I took the aural auscultating tube[1] and placed it in this ear. I found to my great surprise that the blowing sound was occasioned by his respirations. It was much more distinct when he breathed through his nose with his mouth closed; then it sounded somewhat like blowing over the mouth of an ounce bottle; when his mouth was open it could not be heard so distinctly; and when he breathed only through his mouth, it was not heard at all. His voice, as heard from his ear, while not nearly so loud, had the peculiarity of the hollowness and proximity that can be illustrated by placing the stethoscope near the larynx of a patient while he is speaking.

After one injection of the warm salt water, all these peculiarities were lost, but were made to return again—except the hearing of the respiration—by the repeatedly blowing of the nose. The aural auscultating tube was again applied to this ear, and the previous observation confirmed. Another douche with the syringe again shut out the sounds, but were caused to return by

1. I consider this a preferable name to that of "otoscope," or "diagnostic tube," being more descriptive of the use of the instrument.

more blowing of the nose. Politzer's air douche was not used for fear of injuring the membrana tympani thus exposed.

Feb. 8th.—The relief from hearing his voice in this ear lasted until he fell asleep. On awaking this morning he found the symptoms the same. Says the upper and posterior portion of his throat is somewhat painful, and that his hearing is not quite so good. Watch heard in right ear, $\frac{3}{9}\frac{0}{6}$, in left same as before stated. The same examination with the aural auscultating tube, and the use of the syringe, fully confirmed yesterday's observations, the only difference being that it required greater exertion on the part of the patient to clear the Eustachian tube after it was filled with water.

Feb. 10th.—The patency did not return until yesterday morning, being absent about twenty-four hours. Has more pain in the head than usual; tinnitus in right ear; hearing in this ear $\frac{2}{9}\frac{8}{6}$. According to directions, yesterday he snuffed warm salt water into his left nostril, while his head was inclined to that side. After repeated efforts, this had the effect of shutting off the sound of his voice from this ear, but the relief was not of long duration. The same examination with the aural auscultating tube, followed by the use of the posterior nares syringe, was repeated to-day as often as the Eustachian tube could be cleared of fluid by blowing the nose, confirming all that was before observed.

Feb. 11th.—The tube did not open until about ten o'clock last night. This morning he was successful in forcing water from his mouth up behind the soft palate into his nose, while his head was inclined to the left side. This stopped the sound of his voice in this ear, lasting for an hour or two, or until he coughed or blew his nose, when he could again stop the sound of his voice with more water.

This plan of experiments and observations was continued every other day until the 24th of February, at which time the autophony was permanently shut off. This was apparently brought about by the application of a grs. x solution of argenti nitras to the mouth of the left Eustachian tube, by means of a sponge, and held there about two seconds.[2]

On the 2d of March he could hear the watch with this ear when it was just away from contact, on the 6th when $\frac{1}{2}''$ from it. The membrana tympani was now *more concave*, and the "cone of light" smaller and brighter (6th conclusion). The hearing with the right ear on the 6th of March, $\frac{3}{9}\frac{4}{6}$. Although this is two inches less than when he first presented himself, yet he claims that he can hear very much better, especially that he is not so much in doubt as to the direction from whence sounds come.

After the experiments and observations on the 7th of February (1868), I considered that the case had demonstrated itself

2. This is not good practice. I would not make such an application now. Spraying the pharyngo-nasal cavity to reduce the catarrhal inflammation is much preferable practice.

to be that of an abnormally open Eustachian tube, and I then conceived the idea that it was necessary to havethis passage constantly closed for normal hearing. Soon after this my doubtful opinion was converted into almost positive conclusions by finding that Mr. Toynbee made a mistake in his first experiment, given to prove the correctness of his theory;[3] also that he was in error in the diagnosis of his cases that belong to this same class, reported on page 155 of his work.

Case X.—About the latter part of March, 1868, I noticed my friend, Dr. Charles K——, of the firm of A. M. Leslie & Co., of this city, close his nostrils with his thumb and forefinger, and instantly making an inspiratory effort while his mouth was also closed. The reason for this procedure instantly came into my mind. I made the remark to him at the time, that he abstracted air out of his tympanic cavity to drive away a disagreeable fullness in the ear, and to prevent the sound of his voice from going into his ear, and also to increase his hearing. He replied that I was right,stating that he frequently, maybe fifty to a hundred times during the day, was compelled to do this, especially after taking a cold in the head, to which he was very subject. Not long after this I had frequent opportunities of examining his ear and found that previous to the abstraction of air from the cavity the membrana tampani was but slightly concave, the "light spot" and whole surface was dull; but so soon as he made a quick inhaling effort, with mouth and nostrils closed, the dullness disappeared, the concavity was increased, and with this change, the removal of the sensation of fullness in the ear, the muffled, deep sound of his voice, at the same instant the increase of his hearing for outside sounds.

Case XI.—The next case of this character that came under my observation was (Jan. 8th, 1869,) Mrs. Mary E. T——, aged about twenty-eight years. Her hearing in the left ear has been affected for about five years; in the right, about one year. She applied for treatment on account of the direct transmission of her voice through the left Eustachian tube to the left ear. This could be considerably increased by yawning, at the same time breathing out through the nostrils. While doing so, with the aural auscultating tube introduced into this ear, the sound of her voice could be easily heard. All deep tones were much more distinct. The "ing" in pronouncing "morning" was very distinct.

On the 19th of January the Eustachian catheter was introduced well into the mouth of this tube; with the aural auscultating tube it was noticed that the sound of her voice was nearly shut off, but the flapping or purring sound of the catheter was very marked, seeming right in my ear. After an inflation by

3. Toynbee on Diseases of the Ear, page 192.

this means, she noticed that the Eustachian tube remained closed a little longer after an inhaling effort similar to Dr. K.'s.

After injecting warm water, having a little slippery elm dissolved in it, into the left nostril, while the head was inclined to that side, the sound of her voice was shut out from her ear for several hours.

When the Eustachian tube was patent, so that, with the aid of the aural auscultating tube, her voice could be heard through it, the "cone of light" was broad and dull in lustre, but instantly, on performing the act of deglutition with the nostrils closed, it became smaller and brighter, proving conclusively an increase of the concavity of the membrana tympani by rarefaction of the air in the cavity and closure of the Eustachian tube; at the same instant the hearing of her voice, abnormally, in this ear was cut off, but the hearing of external sounds increased.

CASE XII.—Rev. Dr. B. F. C., of this city, aged about fifty years. About the year 1862 his left ear was injured by an unexpected discharge of a cannon near him. On examination of the membrana tympani it was seen to be very concave, the "bright spot" quite small, showing that the Eustachian tube did not allow sufficient air to pass into the tympanic cavity; the pharyngo-nasal space was found to be affected with chronic inflammation of the mucous membrane. For this he received a long course of treatment, but with indifferent success.

On January 24th, 1872, he consulted me for a directly opposite disease of the Eustachian tube, that of patency—hearing his voice abnormally loud in his left ear. This was apparently occasioned by a severe cold in the head. His voice sounded to him as though it was immediately in his ear, and seemed double, or as though some one was speaking the same words just back of his left ear. This was so very annoying that he could not think with freedom while preaching. On one occasion he was compelled to desist from preaching on account of it. Accompanying this, was fullness in the ear and increased dullness in hearing.

With the aural auscultating tube the peculiar sound of his voice could very easily be heard. The greatest contrast between any two sounds heard from this ear was that of "a" and "ing;" the former could scarcely be heard; the latter was remarkable for its distinctness.

Strong pressure on the tragus, closing the auditory meatus, decreased the autophony, but did not entirely check it. For the purpose of ascertaining whether or not it was the mere pressure that caused this disappearance, I had him press equally as strong into the meatus the end of the aural auscultating tube; this had *no effect* whatever upon the autophony. I then placed a piece of sheet rubber over the end of the tube and pressed as before; this had the same effect as the pressure on the tragus. These experiments were repeated *several times* with the same result.

Two drops of warm salt water placed into the auditory meatus (preparatory to the application of the constant current of electricity for the treatment of the disease) had no apparent effect in checking the phenomenon; three drops more decreased it a little. When the canal was about half full there was still a little resonance on phonation; but when it was as full as it could hold, there was none at all.[1] This experiment was not repeated. The electricity removed every symptom of patency for several days, and when it returned it was so slight that I could not hear his voice at all from the ear.

Case XIII.—March 27th, 1872.—Miss Mollie K——, of this city, aged 19 years. She had perforation of both membranæ tympana and otorrhœa in both ears since she was a small child. The following are the symptoms of her autophony, in her own words, viz.:

"I have had breathing in my right ear many times during the last winter, and up to the present time, each attack lasting sometimes an hour or two. At such times I have but little matter in my ear, and feel as though something had moved away; then I hear the sound of my breathing. I always drive this away by syringing my ear with luke-warm water. It is such an unsufferable feeling that I have to keep washing out my ear until it stops. As soon as the water stops going into my throat, then I know that the sounds will stay away."

Question.—What does the noise in your ear resemble?

Answer.—"It sounds like a very loud breathing in the head, striking the ear drum quite hard; and, if I speak, it sounds as if I were in an empty room, and as though I heard the echo of my voice. It is not the voice that comes from my mouth that hurts and sounds so loud in my ear, but that part of it that goes to my ear from my throat. The voice that comes from my mouth sounds last, and is like the echo in the room. I never speak loud at those times, because it hurts the ear drum and causes my head to ache very badly."

Ques.—What is the condition of your ear when this occurs?

Ans.—"It occurs at a time when I have a very bad cold in my ear, and when it is not running; at the same time my nose is hot and dry. My breath coming from my ear into my throat is very offensive."

Ques.—Is your hearing more defective at such times?

Ans.—"No; I hear as well at any time; sometimes I think that I hear better."

Ques.—Have you ever tried to stop this unusual sound of your breathing by closing your ear with your finger, or anything else?

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1. These two experiments on this and the following case were suggested by reading Dr. Brunner's article, in the Arch. Opht. and Oto., Vol. II, No. 1, page 110. 1871.

Ans.—"Oh, yes; but that does no good; it only keeps me from hearing other persons."

Ques.—Did it stop the noise a little, and make you feel a little better?

Ans.—"Not in the least (with emphasis); nothing but something run away into my ear would do any good. Sometimes, after washing my ear with water, the sounds would (after being away) soon begin to return, then I have wet the cotton with glycerine and put this in it, if I felt it (the resonance) coming on I would squeeze the cotton a little so that some of the glycerine would run farther into my ear; at the same time I would hold my head on my left shoulder; then the breathing sounds would stop."

The important facts observed during the pathological stage of the first three cases, and sustained by the fourth, that I wish to be kept prominently in view, are as follows, viz.: *a*, sensation of fullness in the ears; *b*, decreased hearing; *c*, increased resonance of voice in the ear affected; and, *d*, decreased concavity of their membranæ tympana, all occasioned by the Eustachian tube being open. Now, there is no disputing but that the air densities on both sides of these membrana tympani in which the Eustachian tube was abnormally open were equal; therefore, according to Foster and Tröltsch, there should have been no disability in their hearing; as these conditions are in accordance with their views of the physiological actions of the tube.

This closes the history of the cases, on the observations of which I founded my seven conclusions.

Their symptoms prove, conclusively, that when the Eustachian tube was opened by a small quantity of mucus acting as a wedge, so that the air in the tympanic cavity became of the same density as the external air, the disability to their hearing was so marked that it *precludes* the possibility of the tube being opened, even for an instant, during the act of deglutition without occasioning the *same* phenomena.

Each one of the three first patients state positively, that on the *instant* that the tube opened, they experienced a sensation of fullness in the ears, and a marked decrease of hearing, and on inspection on these occasions, a decrease of the concavity of the membranæ tympana was observed; and, that on the *instant* that the tube was closed, the fullness disappeared and the hearing increased, and with this, inspection proved time and again the increased concavity of the membrane. The symptoms of the fourth patient, who had perforation of both membranæ tympana fully sustain the statements of the other patients, as to the disagreableness of the voice passing to the ear through the

Eustachian tube. With this patient, the patent tube did not decrease the hearing. Why? Because the open tube could not further increase the air density in her middle ear, it being already equal with the surrounding atmosphere, through the perforations in the membrane.

This proves that patency of the Eustachian tube *per se* is not a cause of deafness, but that defective hearing follows as a consequence of this condition of the tube, allowing *too much* air to enter the middle ear. The superabundant air allows the membrane to fall outward, both by its own weight and its own contractility, so that it leaves its normal position, drawing with it the small bones of the ear, thus preventing due pressure on the fluid in the internal ear. Although the sound waves may strike the membrane in this condition and be transmitted to the small bones, yet, if these do not press upon the perilymph of the internal ear, no impression is made upon the auditory nerve.

There are other deductions that could be taken from the symptoms of these patients, but I will reserve them for another chapter.

As I am not willing to have so important a subject rest on the authority of my observations alone, I will introduce, in the next chapter, the histories of several cases observed by gentlemen of high repute, whose views respecting the functions of the Eustachian tube are at variance with mine, but perfectly in accord with those of the profession. The symptoms that they observed in their patients will prove, even more conclusively the correctness of my position, than has anything that I have placed before the reader.

ARTICLE VII.

THE IDENTITY OR NON-IDENTITY OF MEMBRANOUS CROUP AND DIPHTHERIA.

By H. Z. GILL, A. M., M. D., of Jerseyville, Ill. [Committee on Croup reported to the Illinois State Medical Society at Belleville, May, 1880.]

The separation of two diseases, closely allied in their manifestations, surrounded by circumstances beyond the control of the observer, and exhibiting characteristics, some of which do not come within the scope of his means of analysis, is a difficult task, if indeed it be not an impossibility by the exact methods; or to decide whether manifestations, in many respects analogous, arise from the same essential cause, varying only according to accidental circumstances, may also be impracticable except by preponderance of circumstantial evidence.

The importance of a thorough knowledge of all the established facts in the pathological anatomy, histology and clinical history of the two diseases or manifestations, is alone my reason for presenting the subject of this report before this body.

The point of primary importance in the pathological anatomy is the false membrane. In considering this part of the subject we shall be mainly, but not wholly, concerned with this production as found in the larynx and trachea, because it is in reference to the implication of these organs that the question of identity or non-identity of membranous croup and laryngeal diphtheria arises.

STRUCTURE OF THE FALSE MEMBRANE.

The views held in the early medical history of croup were that the exudations or deposits were ulcers or gangrene of the mucous membrane. Bretonneau denied the occurrence of gangrene in the pseudo-membranous diseases, whether in diphtheria or in croup; but more recent investigators concede that cases severe in type, may be accompanied by this action; and a third view, held especially by many Germans a few years since, is that croup is superficial, and what they denominate diphtheria always affects the mucous membrane itself, producing ulceration of its structure or substance.

More than a century ago Samuel Bard, of New York, expressed himself on the subject of the nature of the false membrane of sore throat, including diphtheria and croup. He regarded it as formed of *thickened mucus on the surface of the mucous membrane, leaving the latter intact.* In 1879, hear one of the latters authors, J. Solis Cohen, of Philadelphia: "One effect of the poison (diphtheritic) is the establishment of a low grade of inflammatory action in the mucous membrane, attended with the exudation, deposit, exfoliation, or slough of a fibroplastic material, similar as far as has been positively ascertained by microscopic and chemical observation, to the false membrane exuded in croup," p. 134. Of croup, he expresses himself as follows: "Croup consists in a *peculiar* [italics ours] idiopathic exudative inflammation of the mucous membrane of the upper-air passages or of its muciparous glands. * * * * There seem to be three distinct manifestations of croup. One is catarrhal, with an exudation of excess of mucus merely; another, croup proper, is fibrinous, in the fully developed form of which pseudo-membrane becomes deposited upon the mucous membrane, either from coagulation of the exuded products or from evaporation of their aqueous constituents; the third, and less frequent variety, is suppurative, an actual production of pus taking place from inflammatory action beneath the exudation. * * Catarrhal croup is by far the most frequent, and both the membranous and suppurative varieties usually begin in the catarrhal form," pp. 458–460.

This diphtheria is an inflammatory action in the mucous membrane, attended with *slough of a fibro-plastic material* [italics ours], similar to the false membrane of croup. But croup is "a peculiar idiopathic (in this tautology?) exudative inflammation of the mucous membrane," etc. Does the "slough of a fibroplastic material" include the mucous membrane, or does it not? It seems to me that this question is not clearly answered in the above definitions. The following from the same author (p. 142) gives his answer on this matter: "The deposit remains upon the mucous membrane for several days—from three to six in moderate cases—and then gradually disappears or exfoliates from periphery to centre, leaving the mucous membrane intact or more or less hyperæmic. * * "According to the views of special pathologists, and those who believe with them, the pseudo-membranous patches in question may be regarded as de-

posits, exudations, sloughs or epithetial exfoliations. This is an open question as yet, concerning which there is a want of uniformity among pathologists."

There is a form of the disease termed *gangrenous diphtheria* which, from mechanical obstructions of the nutritive circulation of the blood, in the mucous membrane, at the site of the deposit, causes the death of the membrane and a consequent ulceration or slough, sometimes smaller, sometimes larger. These cases are generally met with, when at all, under epidemic influence. — *Cohen, Barthez, Rilliet, Trousseau, Isambert, Roger, Peter, Bequerel and others.*

Laboulbène, whom the French regard as having fully set forth the minute anatomy of the false membrane of diphtheria, which they also regard as identical with croup, describes :

1. An *amorphous base*, in which are found the morphological elements, and the very fine molecules which, when free, undergo such rapid movements.

2. Molecules of various forms and sizes, including (*a*) results of decomposition and disintegration, of a purely chemical character, but not fat; (*b*) vibriones, bacteria, monads, micrococci, or coccobacteria; (*c*) vegetable germs and mycelia — *zygodesmus fuscus*; (*d*) fat globules, round, of various sizes, and soluble in ether and oil of turpentine.

3. Cells of the pavement epithelium, or of the cylindrical variety (dependent upon the part from which the pseudo-membrane is taken), granulated corpuscles, and blood and pus corpuscles.

4. The fibrillated portion, consisting of very fine, slender lines, sometimes parallel and at others obliquely crossing in every direction.

The region which furnishes the false membrane leaves an impression upon it, by which he recognizes the locality of its origin by the form of the epithelial cells adhering to it. As a rule, that from the larynx has the cylindrical epithelial cells with cilia at their larger extremity; there may be some few cells of the pavement variety. That from the trachea and larger divisions of the bronchial tubes is composed of fibrine and ciliated epithelium cells. From the smaller tubes the membrane is recognized by its form and correspondence to the tubes, and the pavement epithelium. In rare cases he has observed pigmentary granules. In the conjunctival false membrane examined

at the beginning the fibrine was in a fibrillated condition; later it had become granular. From the cutaneous surfaces the membrane presented fibrine and pavement epithelium in various degrees of development. Roger and Peter describe the false membrane as undergoing three changes: The *first*, soft, semiliquid; then concrete or condensed, and lastly soft and pulpy. In the *first* condition it is found of a basis substance of amorphous granular matter containing parallel lines of fibrillated fibrine. In the *second* is found the same basis of fibrine, in the body of which are found numerous free nuclei, a very few round cells, some epithelial cells, and lastly straight bundles of fibres sometimes split, but never joining in bundles of connective tissue. In no case do we find vessels, nor even the red lines indicative of the first step towards their formation. In the *third*, the stage of detritus, the striated appearance has disappeared, only granular fibrine and free nuclei and leucocytes remain. This is evidently fibrine in a stage of retrogression.

The description given by J. Simon is nearly the same as that by Laboulbène.

The German views are somewhat at variance with each other, as well as directly opposed to the French on certain points in the pathological anatomy and histology of the morbid process of croup as distinguished from diphtheria. Giving now in detail what has heretofore been only mentioned, Virchow has used the term *croupal inflammation* to signify an inflammatory action which causes a deposit, a false membrane, often at first nothing else than a mucous or muco-purulent false membrane, on the surface of the mucous membrane without implicating its structure (Cellulas Pathology, p. 434), and diphtheritic inflammation one in which the neoplastic material (fibrous, corpuscular or sero-fibrinous,) is deposited or formed in the substance of the mucous membrane and produces its necrosis or death. The word croup and its adjective croupal have been diverted from the French and perhaps proper application of an acute membranous inflammation of the larynx and trachea, to be applied to inflammation of the lungs, kidneys, and other organs in which a fibrinous exudation is formed on a mucous surface. V. *Cornil. Notes on Niemeyer*, p. 18, vol. 1. The French based their nomenclature rather upon etiology and the Germans upon their views of the pathological anatomy.

The views of the Germen investigators may also be divided

into two classes: The *first*, held by Virchow, Wagner, Bühl, and Rindfleisch, is, that the epithelium of the mucous membrane produces the false membrane with or without infiltration of the *corium*. The *second* adopts the French view of exudation mainly, and is set forth and maintained by Steudener, Boldyrew, Senator and others. This is that the false membrane is composed, mainly as other inflammatory products, of emigrated, white, blood corpuscles, (see Cohnheim's researches, Virchow's Archiv, September, 1867, Vol. XL, Heft 1–2, and ST. LOUIS MEDICAL AND SURGICAL JOURNAL, pp. 117–140, 1868), and of fibrinous material which has passed out of the vessels of the mucous membrane through their altered walls.

Ernest Wagner has been very thorough in his investigations of the pathological anatomy of the false membranes of the throat and air passages, and is the authority to which Steiner chiefly refers in his article on croup, in Ziemssen's Cyclopædia of Practical Medicine. The false membranes were examined in the fresh state, and also after having been hardened in alcohol. He says of the *process in the pharynx and in the part above the larynx:* The *corium* exhibits lesions as marked as those of the epithelium. The inflammation in it is always diptheritic, that is, in the German sense, interstitial.

1. Lesions of the Epithelium.—The epithelial cells undergo a peculiar metamorphosis which he calls fibrinous. They become enlarged in every direction, by the accumulation in their interior of a proteine (fibrinous) material; the nucleus becomes larger than normal and presents several nucleoli. Then in the enlarged cell, near its periphery, small, round or oval, clear spaces are developed which by increasing distort the cell and crowd out the protoplasm which latter undergoes chemical change and becomes very like fibrine, and at the same time sends out prolongations, which, uniting with similar off-shoots from adjoining cells, form a continuous network of a most irregular and curious character; during these changes the nucleus of the original cell disappears. The most superficial of the epithelial cells do not participate in these changes. * * This curious process in the formation of the false membrane may be comprised in two ideas: *degeneration* (fibrinous) of the epithelial cells, and excessively irregular deformity of these degenerated cells. Their intervals constitute the meshes (spaces) which are filled by the elements of new formation, and of blood globules, generally in small numbers.

2. Lesions of the Corium.—At first the condition is one of simple hyperæmia, then follows (the later steps of inflammation the chief of which is) a very active new formation of young cells, which we may sometimes follow even into the submucous tissue.

He regards these two processes as distinct, and as not being necessarily connected the one with the other. At one time the epithelial lesion prevails, and at another the neoplastic cellular lesion of the *corium*. (It will be remembered the above observations refer to pavement epithelium.)

In the *parts below the glottis—in the larynx and in the trachea*, the network of the false membrane is formed of fine threads, and of layers more compact, but it has an epithelial origin, as in the pharynx. It is formed by the union of cylindrical cells which have undergone the fibrinous metamorphosis. This difference he notes, namely, the young cells are much more abundant in the meshes of the network, and more sparse in the *corium*.

Bühl admits the changes spoken of by Wagner, but ascribes to the diphtheritic process a characteristic lesion, consisting of infiltration of the substance of the mucous membrane, with cellular bodies, (cytoïde Kœrper), sometimes isolated, sometimes united into clumps. These cells are quite dense in the superficial layers, but more scattered in the deeper parts. Their formation from the cells of the connective tissue is not clearly demonstrated. According to his view this new formation is not confined to the false membranes, but extends to mucous membranes not covered with the false membranes. From this he draws the conclusion of the general nature of the disease. In a case of diphtheritic paralysis he found the neurilemma thickened at a point corresponding with the spinal ganglia. There also the new formation is said to have occurred and produced the paralysis. Lorain and Lépine think these views must be considered well before being accepted.

Rindfleisch describes the croupal (pseudo-membranous) and the diphtheritic (membranous) inflammations separately, at the same time recognizing only a difference of degree and not of nature between the two processes. He regards croupal inflammation as differing from catarrhal inflammation of the mucous membrane only by the peculiar nature of the product, a material similar to fibrine in becoming clear by the addition of acetic acid. There are two elements in the composition of the false membrane; *first*, the peculiar metamorphosis of the epithelial

cells, (spoken of by Wagner, but which he calls vitreous;) and *second*, the fibrinoid exudation which comes from the vessels. In this he supports both views, the epithelial transformation, and the transudation process. In the pharynx the large part of the false membrane is formed of cells which have undergone the vitreous metamorphosis. The process is developed in spots and recovers without producing cicatrices of the mucous membrane. *In the larynx* there can be no doubt of the presence of fibrine; the false membrane is formed of stratified layers of young cells alternating with layers of fibrine; and the sub-mucous tissue is more or less infiltrated with young cells. In *diphtheritic inflammation (membranous)* there occurs in the *corium* such an intense exudation that it occasions the death of the tissue, hence the eschars and the cicatrices.

The above may be regarded as setting forth in brief the first theory of the Germans.

The second theory is that formerly held, but for a time had been brought into doubt, and lately by the most recent researches has received the stamp of approval. Boldyrew, Steudener, and Senator, have clearly established the fact, that in the formation (genesis) of the false membrane, vascular exudation is the principal act, and that the epithelial metamorphosis plays but an entirely secondary role. He (Boldyrew) ascertained in the false membrane the presence of the following elements: 1. Fibrine arranged in parallel layers so that one may sometimes succeed in separating them like the concentric layers of an onion. The fibrinous network is very rich. Mucus is collected in certain parts of the false membrane, especially around the excretory ducts of the mucous glands. 2. Pus is also found in great abundance in the structure of the false membrane, especially at the beginning.

The *epithelium* has totally disappeared. The *corium* is infiltrated with leucocytes. There is neither congestion of the capillaries nor hemorrhage.

Steudener's description of the false membrane of the larynx and trachea is nearly the same.

He insists that the epithelium is totally destroyed, and that the *corium* and even the sub-mucous tissue is infiltrated with round cells. He also admits Cohnheim's views of the change in the walls of the vessels, (porosity of Rindfleisch), as in other inflammations, which permits the exodus of the white blood cor-

puscles, and at the same time the extravasation of the fibrine. He objects to Wagner's views as follows:

1st. The strands of the net work of the tracheal false membrane are too thick to be formed at the expense of the little pre-existant cylindrical cells.

2d. The number of cells is too great to be furnished by the epithelium.

3d. We cannot explain by this theory the rapid formation of new false membranes after the separation of the old ones, since there is no longer any trace of epithelium.

4th. He has never observed either in the larynx nor in the trachea the fibrinous metamorphosis described by Wagner.

5th. The lesions observed in the inflamed serous membranes by Cohnheim resemble so much those which we meet in croup as to admit of the same interpretation. These strong and pressing objections, especially the *third*, taken in connection with those already presented and others yet to be considered, bring into serious doubt the views of Wagner, if they do not even overthrow them.

Senator has made a careful examination of the false membrane in its anatomical relations, and also in reference to classification. While he has retained the terms croupal and diphtheritic, he has at the same time applied them to anatomical varieties which enter into a common whole (unity) which he called diphtheria, in that respect following the example of Trousseau. He describes four anatomical forms of diphtheria:

1st. The *catarrhal form* frequently occurring during an epidemic of diphtheria. These cases of simple catarrh of the air passages (in the German sense of catarrh) may degenerate into true diphtheria, of which they are evidently the first stage or a mild attack.

"The author thus gives an anatomical sanction to the peculiarly French idea of *diphtheria* without *diphtheria,* that is, diphtheria without false membrane."—*Sanné.*

2d. This is the *croupal form* and is represented in the pseudo-membranous inflammation of the larynx and trachea. The stratified layers of fibrine and the leucocytes constitute mainly the false membrane. Beneath it the mucous membrane is congested and infiltrated with young cells. This anatomical form is never found pure in the pharynx. "But no one to-day denies that true anatomical croup can be developed under the influence of the

diphtheritic contagium, that is to say, there is a diphtheritic croup coincident with the diphtheritic inflammation of the pharynx."

3d. The *pseudo-croupal* form is characterized by grey or milky membranes scattered in patches or bands on the mucous membranes of the soft palate, and tonsils, and even at times upon the buccal mucous membrane. They are easily detectable and the mucous membrane beneath is perfectly healthy. They are essentially composed of epithelium quite recognizable, and of a large quantity of low forms of fungus (leptothrix, etc.,) which are the cause of the rapid changes in the epithelium, as in thrush, only it is another form of fungus in the latter case (*oiduum albicans.*) There is neither pus nor fibrine. This form is simple and entirely local and may occur during an epidemic and be followed by true diphtheria. We might without violence class this form with the catarrhal form of this author.

4th. The *true diphtheritic form* (in the commonly understood German sense) is gangrenous and not membranous or pellicular. His description of this form agrees with that given by Rindfleisch.

While there is little new in the anatomical description, yet he recognizes in the different anatomical forms a common origin—the diphtheritic poison; and in this important particular he differs from many of his countrymen.

This differs widely from Wagner, who made the pathology to suit the fancy of his anatomical ideas, and accordingly held that a patient might have two diseases at the same time by mere coincidence—a diphtheria above the glottis and a croup below it.

Niemeyer was one of the prominent German writers who used the terms catarrhal, croupal, and diptheritic, in a sense which required special explanation. He realized and admitted the near relation of "croupous inflammation of the mucous membrane of the pharynx," and diphtheritic inflammation of the same part which he described in two different chapters. After speaking of the infiltration of tissue by fibrinous exudate, and calling the eschars thus formed diphtheritic, he says: "However, we should not lose sight, that in many cases which, beyond question, should be comprised in the disease which we are now describing (diphtheritic pharyngitis) the exudate rests only upon the surface and does not at all infiltrate the tissue of the mucous membrane; therefore the mortification of the mucous membrane fails under those circumstances. These cases, which in a purely

anatomo-pathological point of view should have been included with those which formed the subject of the previous chapter (croup of the pharynx,) stand so intimately related, in origin and course, to those which are distinguished by the diptheritic character that in the clinical relation they should not be separated from them; it is therefore necessary to agree with Barmberger, who declares that by reason of the numerous points of transition and intermediary degrees, it is not possible to establish a separation, well marked, butween croupal inflammation and diphtheritic inflammation." To the above Cornil replies in foot note: " * * If it is really a specific disease, infectious and contagious, that is diphtheria such as Trousseau described, with its various localizations." Page 497. Niemeyer does not agree, however, that simple croup, and the croupal laryngitis dependent upon a diphtheric infection, are identical. Similar anatomo-pathological manifestations form but one step. Though the anatomical changes may be alike, if their origin is essentially different, "as in primitive croup and diphtheritic croup," we must not confound them.

Warimann and Hagner regard the diphtheritic process as a unity capable of taking on distinct anatomical forms according to the part where it develops. Sanné admits that in latter years the works of the French have felt the influence of the German teaching; and refers as examples to Lorain and Lépine, Cornil and Ranvier, Mathias Duval and le Reboullet.

Homolle, of Lille. in 1875, published his views in which he undertakes to prove that the false membrane is composed of a coagulable fluid (fibrine?) in which the young cells are entangled (imprisoned) and are found in large quantity on the surface of the mucous membrane.

ARTICLE VIII.

INJURIES OF THE PALATE. By PINKNEY FRENCH, M. D., of Mexico, Mo.

So little is said in our surgical works upon the treatment of wounds of the palate we are induced to report a few cases occurring in our practice with a view of directing attention to the treatment.

The first case was that of a little boy some eighteen months of age. The soft palate was completely divided by a knife in the following manner: The child was playing upon the floor, having in its hand a piece of a dull case knife—at a time when the end of the knife was in the baby's mouth an older brother in his rompings came in contact with the handle, thus forcing the blade into the baby's mouth. The point entered to the right of the median line making an incised wound of the soft palate. We were told considerable hemorrhage was present, but this subsided of its own accord. The next morning we approximated the cut edges as best we could by the introduction of one silver wire suture. This prevented to a great extent the flow of milk and other liquid through the nose when the child attempted to swallow. The wound united kindly—we removed the suture on the fifth day. In about ten days the cure was complete.

The second case was that of a little girl, three years of age. A lacerated wound of the soft palate was made by falling upon a blunt stick—the end of which she held in her mouth at the time of falling. The wound consisted of a ragged and nearly oval aperture just at the anterior portion of the soft palate. As there was no loss of substance and little gaping—we recommended rest of the palate (refrain from talking, laughing, swallowing, etc.,) thinking this could eventually effect union—but we afterwards found it necessary to make application of the nitrate of silver to the cut surfaces of the wound in order to complete the closure of the opening.

Some months ago we saw our third case. This was in the person of a negro boy two and a half years of age. The wound was created by the child falling while having in its mouth the

small end of a tin flute, the rim upon which had been removed, thus leaving but one thickness of tin—its edge being rather rough and ragged. In its passage backward and upward the hard palate was slightly injured and the soft palate was torn from its anterior to its posterior extremity—in a ragged and crooked way—when the flute took effect upon the soft structures; a semilunar piece something larger than a half dime was almost entirely removed. The hemorrhage, to use the language of the parents, was "frightful". The issue of blood was considerable, as we can testify, and was only arrested by the application of astringent lotions. The nature of the injury, the shape of the laceration necessarily produced a loss of substance and no little gaping. Upon an examination of the parts after cessation of hemorrhage we concluded to close the wound with interrupted suture, an operation much more easily described and recommended than executed. The truth of the last statement was not impressed upon our minds by anything we had read or heard regarding the performance of this operation, but was sensibly realized by our failure to perform the operation as easily and successfully upon the last mentioned case as were led to believe might be done. It may be that others, upon meditation and reflection, have thought of the difficulties attending such procedure, but to us upon this occasion it was uncomfortable, notwithstanding the difficulties under which we labored, in properly adjusting one silver wire suture and introducing another, although not so neatly adjusted as it should have been. The introduction of the two sutures did not bring about such coaptation of the torn surfaces as would facilitate union, but the day being dark and bad, the injury bad, the pay bad, and the smell bad, and being somewhat worried we desisted further efforts and promised to see the boy the following morning. In the meantime we consulted all the works upon surgery within our reach and could but express our astonishment that so little had been written upon the subject (many text-books not even mentioning such an injury), when we take in consideration the frequency with which the accident does certainly occur. The introduction of the sutures recommended are based upon the same principal as in the operation for cleft palate. This occurring to us, we were of the opinion that the adoption of those measures first recommended by Mr. Fergusson and now universally practiced to perfect union of the soft structures in cleft palate, viz:

division of the palato-pharyngeal muscles, would bring the wounded parts in this in such relationship to each other as would facilitate union. On the following morning we divided the above named muscles. The effects was immediately noticeable, the parts relaxing to such an extent as to permit us to tighten the stiches formerly introduced. The wound gradually but kindly united, and in a few days the opening was completely closed. It became necessary however to use the nitrate of silver as heretofore mentioned.

ARTICLE IX.

ELECTRICITY AS AN ADJUNCT IN THE TREATMENT OF UTERINE DISEASE.* BY H. B. BUCK, M. D., of Springfield, Ill.

I fancy that every prudent person in attempting to write upon a subject strictly medical regrets the want of that sort of demonstration which characterizes the perfect science.

As a reward to patient investigators and accurate observers, time has established many very important and universally recognized truths, which serve as guiding stars in all medical explorations and in many instances so stable and unchangeable as to lend a color of consistency to the oft repeated expression "Medical Science."

Unfortunately the existence of so many pathies and isms so diverse and contradictory in their elements, all having in view the one grand and praiseworthy object, the welfare of suffering humanity, proves incontestably that the difference between them is either more apparent than real or that we have a very shadowy claim upon that degree of perfection which constitutes a science. Should this discourage the investigator? I do not hesitate to affirm that with one religious sect only, and all agreed upon one creed, even God's word of truth would lie a comparatively neglected volume. Health is the normal condition, disease the penalty following infractions of established laws.

*Read before the Tri-State Medical Society, held at Evansville, Ind., November, 1879.

What though we find crippled nature being restored under different and diverse plans of procedure!!! It demonstrates natures recuperative power and shows the necessity for closer observation and teaches every author of new plans and theories to withhold dogmatic assertions until every fallacious avenue has been thoroughly explored and actual experience demonstrates its value.

It must not be inferred that I discourage suggestive papers, theoretical propositions, etc.

I can conceive that the advocacy of a false theory, which leads searches after truth into fruitful fields that otherwise might have escaped notice, often proves corrective in its tendencies and even its author deserves commendation since the struggle to overthrow the false developes substantial good. Chaff must not be despised; it was a necessity in protecting the maturing grain; its presence suggests the real kernel and upon the untiring searcher after truth devolves the task of separating from the immense volume of medical literature so called, the solid grains of truth.

I am slow to promise that the addition from my pen to this rapidly increasing mass will in the winnowing process show any improvement.

It will be understood that this paper treats of electricity as an adjunct only in the management of female diseases. I try to utilize all the remedies now in vogue and shall take occasion to make special mention of some of them either by approval or condemnation.

The limit of this paper will not allow me to dwell upon the etiology of the various diseases to which woman is liable, but I design in a general way to speak of some of the causes of uterine disease and to point out some of the fallacies of the present day of the rationale of the modes of treatment can be regarded as suggestion of existing morbid conditions.

Nitrate of silver, nitric acid, acid nitrate of mercury, etc., have been largely used in this department and I do not hesitate to say the procuring cause of much mischief.

While I am ready to admit that the limited use of these potent remedies is justifiable and that there may be conditions making them quite indispensable, I am fully convinced that the indiscriminate manner in which they have been and are being used is the occasion of much evil, both directly and indi-

rectly; directly upon those who are the unfortunate subjects and indirectly upon those who may need treatment, but are deterred by the doleful reports of sufferers.

If the local manifestations patent to the eye through the speculum were primary and constituted in toto the departure from health, the use of such means would be far more appropriate; but even then subject to objections if so harshly used as to destroy the integrity of the tissues, so that in nature's effort to restore the injured part there is produced cicatricial tissue which we often meet and which never fails to be the source of great and lasting trouble.

No treatment short of excision or its removal by what might be termed a plastic operation whereby a new mucous surface is supplied, will be of any avail. This can be done on the uterine neck or upon the vaginal surface, but when located in the cervical canal, where it is very frequently met, the result of the persistent use of active caustics, the difficulties are well nigh insurmountable. It is quite safe to assert that the original disease would be far preferable.

My experience teaches me that a real case of ulceration, while the womb maintains its normal position, is an exceedingly rare occurrence, and that the great majority of so-called ulcerations, engorgement, chronic inflammations, etc., are the result of accidents, or the operation of causes producing displacement whereby the normal circulation is more or less obstructed, leading naturally to these baneful results. If this be true the treatment should be directed to the relief or removal of the first cause as the most direct means of curing resultant evils.

If we examine the anatomy of the healthy pelvis and carefully note the position of the womb and its relation to surrounding organs as well as its own immediate attachments, we will notice that its ligamentous supports are arranged in strict conformity with even human judgment in order to preserve its proper position either in regard to its natural level or its upright poise—but we cannot be unmindful of the fact that its firmness is not sufficient to withstand the encroachment of surrounding organs; neither can it suffer accidents of any special gravity without sustaining harm. The distribution of its blood vessels is such that any deviation from its natural position must result in partial obstruction to the circulation and the degree of interference will depend upon the degree of displacement.

If the arterial and venous circulation were alike obstructed, both suffering the same from this derangement, there would be fewer cases of the character before mentioned and a much larger percentage of cases of atrophy of the womb.

We can readily see why the venous circulation first suffers, since the *vis a tergo* force, as well as the superior firmness of the walls of the arterial vessels, enables them to better withstand this partial obstruction. Venous congestion results; the normal nutrition of the organ suffers; the tendency is to engorgement and enlargement, an increase of weight, all tending to intensify existing difficulties. The partial prolapsus is constantly increasing, and the constant titillation of contiguous nerve centers gives rise to that morbid train of symptoms, viz., backache, a a sense of dragging weight, vesical irritation, inability to stand, etc., and to these in many cases of nervous temperaments many remote sympathies simulating local disease to which are directed much unavailing treatment, for the reason that the central cause of the whole mischief is overlooked. It is true there are cases of displacement unaccompanied by this train of morbid symptoms; and because of this fact many writers fail to give them the significance they demand, apparently forgetting the difference in temperaments.

Some phlegmatic persons would bear unharmed and apparently unmoved, experiences which would throw a sanguine nervous temperament into actual convulsions; so that in cases to all appearance similar so far as local derangement and actual displacement is concerned, it must not be inferred that a troublesome, sympathetic disease in one and absent in the other cannot for that reason be referred to the uterine trouble. The removal of an insignificant hæmorrhoidal tumor will often banish a train of sympathetic ailments, the real cause of which had never been suspicioned until results proved it. If such a localized trouble produces remote sympathies, is it strange that such an important organ as the womb should under disease prove much more prolific in the same direction? If my theory is correct the indications in the treatment point to relief of the primary cause rather than attempting to mend or patch up the results of its operation. I need not say this is often an exceedingly difficult task and can only be accomplished in an indirect manner, since all mechanical means hitherto devised for this purpose are to say the least imperfect, and cannot be tolerated

even in many cases where support would seem to be the most important indication. Pessaries are of service in cases to which they are adapted; but where there is local tenderness, or even sensitiveness, they cannot be used with safety until those symptoms are relieved. For the accomplishment of this end through the best methods recommended by standard authors both time and patience are requisite, and the most reliable means for correcting the primary cause are unavailable until the most tedious and vexatious part of the work is done. The hurried use of the best mechanical supports often arouse serious complications and adds materially to existing troubles.

Thus we are obliged to work under great disadvantages, and by indirect methods overcome to a great extent a train of evils dependent upon a known cause ere we can use the best means in general use for the removal of that cause.

In electricity we have a therapeutic agent at least applicable to every condition properly applied, and can be used with benefit in every stage of uterine disease. It matters not how sensitive the parts, how great the displacement, how serious the consequent evils, it is a trustworthy ally, and in no sense incompatible with other approved measures, but works in harmony, since its therapeutic effect is somewhat similar to many of the local measures which experience proves the most valuable, but has the decided advantage of greater permanency in its effect.

I can call to mind cases where the peculiar symptoms denoting prolapsus were so distressing as to thoroughly incapacitate the patient for exercise on foot and accompanied with such a degree of tenderness as to preclude the use of any mechanical device, improve under appropriate local treatment in connection with electricity so rapidly as to leave no doubt in my mind of its efficacy.

My experience with it as compared with previous treatment without it (which does not otherwise materially differ) leads me to make this statement most unqualifiedly. I regret the want of more positive knowledge of this agent, but at the same time feel that its use is not a whit more empirical than many other remedial measures adopted by the profession because actual experience has proved their value. We know by experience that electricity energizes and gives tone to the depressed and devitalized nervous systems; that certain kinds of localized pain are relieved promptly; that under certain circumstances it answers

the full purpose of a nervine by calming and composing nervous agitation; that the circulation is markedly equalized, sending warmth and vigor to extremities that were cold and lifeless; even the paralyzed muscle is made to contract. Thus we have incontestible evidence of its effect upon the human system. It remains for us to point out some of the benefits derived from its use in the department under consideration.

It is perhaps unnecessary for me to remind you that there are different electrical currents, each showing peculiar and unvarying characteristics.

I find that the current excited by direct chemical action to be more useful because more generally applicable in the general treatment of uterine disease. The indirect or induced current has its uses, to which I may refer, although the direct current interrupted seems to answer very well as a substitute.

It may not be amiss to give a general idea of the battery we have in use. It is called the specific gravity battery, two fluids in each cell, one charged with sulphate of copper and the other containing a wheel of zinc. We have 125 callaud cells, capacity of each fully one and a half gallons. My partner, Dr. F. L. Matthews, has had the arrangement of this large battery, so connecting the cells with the battery heads as to allow its use by sections in five different rooms in our office building. While I ordinarily use a much smaller number, my department proper commands one hundred cells. The surgical department of my partner commands the entire cell connection. Each battery head has a galvanometer, which indicates the current and serves not only to detect any disconnection but to locate it. Each has an interruptor which converts the steady into a broken and more stimulating current, the rapidity of interruption being under the control of the operator. With such a battery head so located as to be within easy reach of a Chadwick gynæcological table containing an entire outfit of instruments and medicaments, we feel warranted in saying from actual experience that for the present comfort and prospective good of the patient we feel a greatly increased degree of confidence as compared with former times, and assert unhesitatingly that for the convenience and comfort of the operator it is a vast improvement.

While we have much to learn in regard to electricity, ere we can hope to accomplish all within its scope, there are some points established which serve as an invaluable guide in its application

for the relief of diseased conditions. If we produce vesication with the positive pole the effused liquid is always acid, with the negative pole always alkaline. If in case of doubt we wish to test the poles, the simple experiment of immersing them in a solution of starch and iodide of potassium will immediately solve the problem. The iodine will seek the positive while the potash will find the negative. In general terms the positive electricity invites the acidifying while the negative invites the alkaline elements.

The natural deduction based upon well established facts, i. e., the positive invites elements that feed while the negative invites elements that subdue inflammation, hence the proper diagnosis being made the proper mode of application is readily suggested. In all cases with inflammatory complications and consequent irritability there can be no doubt as to the proper use of the poles, but varying conditions in each individual case call for the exercise of judgment on the part of the operator as to the kind and strength of current.

In that class of cases characterized by sensitiveness, enlargement and unnatural firmness, with displacement as a usual complication, the object would be to produce sedation, excite absorption and thus change the nutrition of the diseased organ. In our local applications and general medicinal prescriptions for this condition the approved treatment has been such as best fulfill these indications. We use anodynes, antispasmodics, etc., to obtund nervous irritability, while our local treatment is such as to produce derivation, excite absorbtion of effused material which in many cases by permeating the uterine tissues has the effect of a foreign substance upon the delicate nerve filaments and will continue to act as a local irritant until removed by the only feasible plan, viz.: absorption. Some of our local applications are supposed, through the afferent nerves, to influence the nerve centers and thus by a reflex action stimulate to contraction the circulatory channels and thus improve the imperfect and partially obstructed circulation. Our theories have as a rule been more satisfactory than the practice based upon them. I am now of the opinion that the theory has not been so remote from the truth as the therapeutics in fulfilling the design for which they were used. In this class of cases Churchill's tincture of iodine as a topical application deserves notice, the rationale of which is derivation, liquefaction, excitation of the absorbents, which in

turn by its effect to relieve engorgement serves to partially liberate the nerve filaments which suffer constant titillation from the effused material, the result of inflammatory engorgement. While experience proves the efficacy of this treatment, we see at a glance its effect must be circumscribed. We can apply it to a small surface only as compared with the entire organ diseased; sympathy of contiguity, so called, spreads its influence to some extent but its effect upon the nerve centers cannot be very pronounced. If to the good effect of topical applications we had some means of quieting nervous agitation, thus controling the many keen sympathies which are natural concomitants in these cases and could produce an energizing and equalizing influence upon the nervous plexi presiding over the organ originally diseased, thus imparting tone to those passively engorged and functionally deranged tissues, we would certainly feel that our armamentarium had received a valuable reinforcement. This I contend is the direct effect of the steady, unbroken galvanic current. Within the past week one case of almost constant and distressing pain in the region of the ovaries, and which I diagnosed as congestion of those attachments, yielded almost magically to this current applied with a view to its sedative effect as well as its contractile power upon the congested and enlarged blood vessels, through the increased vigor and tone imparted to the centers supplying those parts. This same patient had been under the care of a physician capable of giving approved treatment, and probably prescribed medicines as efficacious as any used by me. I am of the opinion that the prompt relief is fairly ascribable to the current.

TYPICAL CASE OF FIRST VARIETY DESCRIBED.

It might be proper in passing to detail treatment of a typical case in each variety mentioned. Have at present two cases under treatment that will answer my purpose, neither of them cured, but so far relieved as to leave no reasonable doubt as to perfect recovery in due time.

Mrs. C., American, aged 25 years, gave birth to a still-born child some two years since. Dates her whole trouble from that experience and attributes it to the inefficiency of the midwife. Suffered eighteen months before applying for treatment; became so bad was compelled to seek relief. Found extreme tenderness throughout entire pelvis; womb sagging and retroverted; firm

and unyielding; vesical irritation very distressing, which had been a constant symptom since her confinement, and gradually progressive; constant pressure downward; micturition the occasion of severe pain and involuntary straining; general health much impaired; suffered much from headache and had occasional attacks simulating chronic ague; menstruation very painful. Was at first obliged to use palliatives but steadily pursued a plan calculated to reduce local inflammation, using the unbroken galvanic current with a view to energizing the nerve centres, thus overcoming passive congestion; also applied to diseased parts negative pole for the purpose of inviting alkaline elements to soften and prepare effused material for absorption. Was obliged for relief of bladder to introduce dilators of a size to produce considerable pressure upon the congested mucous surfaces and pretty fully dilate the urethral canal.

TYPICAL CASE OF FIRST VARIETY.

Secondary effect was one of relief. The constant dragging, weighty and bearing down sensations so marked and constant for many months was soon relieved. This result very largely attributable to the current which so tightened the whole suspensory apparatus as to appreciably elevate the sagging womb. So rigid and immovable were the parts at first that adhesions were suspicioned, which, happily did not exist. Subsidence of inflammation and consequent engorgement, restored mobility of the parts.

During this treatment Churchill's tinct. iodine was persistently used, as was also pledgets of cotton saturated with mild astringent mixtures, and left in the vagina in close apposition with diseased womb after each treatment, with cord attachment to facilitate removal. Her present condition much improved, Six months of steady treatment, the applications varying from five to ten days, has produced very great and radical changes. Menstruation normal and painless; no remains of soreness; exercises without pain; has some irritation of bladder at times and will have until the womb assumes a higher plane. States that had she never suffered more than at present would never applied for treatment.

The persistency of this symptom led me to try the effect of Hodge's lever pressary, in order to change position of uterine neck, and thus remove the probable source of vesical irritation.

Made several careful trials and learned that one of a size sufficient to accomplish that end would not be tolerated for a short period even. The fear of exciting pelvic cellulitis caused me to desist.

There is another class of cases differing in a marked degree from those, to which especial reference has been made and which in the general practice of the gynecologist occurs much more frequently. These excite a variety of sympathetic troubles, but not so keen and acute in character as in those cases hitherto described. While in both varieties there is displacement with enlargement, they differ materially to the sense of touch. While the former are extremely tender, smooth to the touch and unnaturally firm, the later is quite the reverse, except there may be tenderness in a milder degree. In the former, as has already been stated, the sympathetic derangements are more intensified, bordering upon or even actual hysteria, not infrequently a train of evils pointing strongly to spinal trouble, and I doubt not by the general practitioner so regarded and treated as an original disease. Under well directed and persevering treatment, with subsidence of the uterine disease, the simulated spinal inflammation disappears. The latter type has its sympathetic derangements, but does not produce so many confirmed invalids since the nervous system is not so violently disturbed, and for this reason the treatment is deferred until the diseased condition becomes intensely chronic and the whole womb texture is so changed that nothing but persistent treatment is of any avail. In these subjects you will find general relaxation, a history of long continued infirmity, all the symptoms of partial prolapsus, etc. Close examination reveals all the conditions to which the general relaxation would naturally point beyond those already mentioned, great flabbiness of the vaginal walls, a spongy condition of the uterine textures, much enlarged patulous os, and not infrequently a large surface encircling it denuded of its mucous epithelium, with a granular condition of the whole cervical canal. There are points of similarity between these and the condition that pertains in those cases which writers denominate sub-involution, and the similarity continues even in the indications to be fulfilled in their treatment. Here mild astringents are applicable, such as will secondarily produce a tonic and invigorating effect. Harsh astringents will do harm since the reaction will destroy the primary contractile influence. In all these cases the displacement is an important factor, since the partial impaction seriously

interferes with the circulation, more especially the ready return of the venous blood. Here our most approved local remedies fail to influence the nerve centers supplying those parts, except in a very indirect and at best temporary and fitful manner. None of them do more than temporarily stimulate.

What we most need is tonicity of those parts, a permanent contractile power that will extend its influence simultaneously to all those relaxed tissues, especially those concerned in suspending and keeping the womb in its natural plane and position.

If by any means we could so influence the nerve centers as to accomplish this object the same influence would extend to all and every diseased tissue, thus in a wholesale way accomplishing on a grand scale what we are endeavoring to effect in a circumscribed manner by our local therapeutics.

Our great dependence hitherto has been tonics; our effort has been to enrich the blood and thus bathe the nerve centres with a more stimulating current — one that would increase the flow of nerve force.

While we would not fail to give our patient the benefit of this appropriate treatment, we do so with the full knowledge that the disease itself was the procuring cause of the marked constitutional depression, and so long as it continues unmitigated is a very serious hindrance in the accomplishment of this important end. In all diseases attended with severe pain the use of opiates has universal approval, notwithstanding the derangements which they generally occasion. We recognize the fact that these unpleasant effects are in no degree commensurate with the great good resulting by way of preventing the very baneful effects of continued pain. Fortunately the rapid march toward perfection in the department of pharmacy has furnished the profession with valuable substitutes, which answer the purpose in many instances, comparatively free from the objections with propriety urged against the general class of opiates. If in such cases we could find a substitute for this entire class of remedies — one that would act as an hypnotic, that if necessary takes the place of a stimulant nervine and unlike the above mentioned influence, so far from producing any evil results, even of minor importance, has the effect to directly invigorate the nerve centers, and by an increase of tone and energy all to the nerve connections as so many telegraphic wires to strengthen, and by its contractible power shorten as a natural consequence, the suspensory

apparatus of the womb as one grand whole, which, in turn, must *pari passu* with its elevation relieve in proportion to its effect the obstruction to the return of venous blood, and thus by its permanency act as a perpetual lever to lift this diseased organ from its cramped position, perfectly free from any of the casualties which with the greatest care often follow the best fitted mechanical instrument used to elevate; if it shall appear that it works in harmony with our favorite chalybeate tonics, upon which we have always placed so much dependence, increasing their efficiency, and thus like a powerful reserve can be relied upon to relieve all the distressing symptoms directly traceable to the local disease which has in fact been the procuring cause of all this constitutional depression; thus, like the opium securing present comfort, not only without evil tendencies, but a constant and powerful aid both for the present and prospective good of our patient, we have good reason, fearless of criticism, to shout Eureka!

In the INTERRUPTED GALVANIC current we have the remedy par excellence for the accomplishment of these important results.

One of the unvarying demonstrable effects of this current is muscular contraction. Galvanic experiment upon the frog's foot proves the nerve to be the conductor of the fluid, since touching the electrode to the exposed nerve trunk produces contraction of muscles to which that nerve is distributed, sufficient to cause the leg, entirely separated from the spinal column, to leap from the goblet. As might be expected in cases of deficient nerve power with consequent relaxation, experience shows that the repeated applications of this current not only stimulates for the time but produces effects more or less permanent, according to the persistency with which it is used. The curative power of this particular current is not more markedly apparent than in that class of cases of partial prolapsus attended with that distressing dragging sensation accompanied with a sense of weakness and often pain in the back, unfitting the sufferer for exercise on foot and sometimes making the standing position even more unbearable than moderate exercise.

Even a few applications suffice to give the patient strong confidence, since the relief is so prompt and decided. This I suspect results from the increased tonicity imparted to the relaxed tissues as a whole; thereby inducing a general contractible effect

upon the texture of the womb and more especially the entire suspensory apparatus.

Did space permit I could cite individual cases illustrative of this statement.

It may not be amiss to give the hearer a general idea of the manner of using this adjunct remedy. As is the case with many other remedies we do find persons where, if used at all, it must be handled with great care and delicacy. Such an indiosyncracy is not perhaps more frequently met than such as precludes the use of morphia. If immediate effects are closely watched I think less harm will follow the trial than is frequently produced upon patients strange to us and being subjects of that idiosyncracy fail to make it known. As is the case with other remedies the tolerance of the patient must be the guide as to quantity in using it. As before stated the steady galvanic current is sedative, and to produce general sedation the positive pole should be applied over the medulla oblongata and the negative to the pedal extremities. To produce local sedation the positive should be applied to the root or origin while the negative is applied to the extremity of the nerve. In cases of local inflammation, for instance of the ovaries, the positive pole should be applied to the back or held in the hand of the patient while the negative is applied to the affected part, the object being to invite the alkaline elements or such as tend to resolve or check inflammation and at the same time impart such an equalizing force to the nerves distributed to those parts as to hold what may from time to time be gained from repeated applications. The softening and liquefying effect of those elements seeking the negative pole prepares the effused material for ready absorption and in proportion to the results in this direction the pressure on the nerve filaments is removed, and thus one of the prime causes of pain is proportionately relieved. Since status of the blood is the climax of disturbance in the circulation constituting inflammation, and since in all instances we find the capillaries engorged and enlarged, it seems quite plain that if with the results before mentioned we could give an impetus to the stagnant blood and set in motion that suspended circulation we would have the proper combination of forces to redeem the disabled organ.

We know that the middle coat of the arteries is muscular, and as they divide and sub-divide, getting more minute, the muscular element becomes more and more prominent as compared

with the elastic until in the very minute vessels, the middle coat consists entirely of a series of plain muscular fibres wrapped around the internal elastic coat.

It is also settled that these muscular fibres are under the dominion of and receive from the vaso-motor system of nerves their stimulus to contraction. Hence we have only to prove that the electric current does furnish the necessary stimulus to produce contraction and thus by lessening the calibre of those dilated and engorged blood vessels give the necessary unloading impulse, to give it rank as an appropriate remedy in cases of local inflammation. If it shall appear upon investigation that its effect is not only to actively stimulate, but that its influence upon the vaso-motor system is to permanently strengthen and invigorate, we shall feel obliged to give it even a front rank in our list of remedial measures.

While I may not be able to prove this to a demonstration, I cannot otherwise account for the good effects so frequently observed in a variety of cases of functional visceral disease, when from the beginning of treatment to its successful issue the morbid condition, whether properly or improperly, was ascribed to a deficient nerve force, the nervous system failing to furnish the power, so to speak, to produce healthful functional activity. How else can we account for the complete relief of obstinate constipation by this current alone? How else explain the rapid subsidence of that train of symptoms usually denominated dyspepsia, but really cases of simple indigestion? Relief in such cases cannot be ascribed to any cause other than improvment of nervous tone, and if lasting we are forced to the conclusion that the improvement was permanent.

It has been said by some experimenters that this current used in one direction increases the activity of the nerve while the reverse subdues irritability, and if persevered in will tend to or produce paralysis. If this be true it reminds us that before applying it in any given case great care should be exercised in diagnosis, and when properly made the manner of using is readily suggested. My limited experience fails to confirm this statement in full, but in severe cases of neuralgia in anemic subjects I have witnessed much more prompt relief than we ever obtain by medication, and by a combination of the two often succeed admirably without the use of any of that class of palliatives which we are often compelled to administer for immediate relief even

under protest, knowing full well the secondary evil tendencies. Thus far we have been speaking of cases characterized by nervous excitability, and in most instances prostration also, where the object is to calm irritability, and at the same time give tone and impart vigor to the nerve centers presiding over affected parts, thus aiding crippled nature to return to a healthful condition. In a large per centage of cases treated by the gynæcologist in ordinary general practice this current either steady or interrupted will be found most useful applied in the manner already indicated—the peculiarities of each case suggesting the particular kind of current—the strength to be used, etc. In all cases of chronic inflammatory engorgement of the womb, especially of very long standing, I am of the opinion that mildly applied for a prolonged interval it has a better and more permanent effect than the strong current. I might apply a similar statement to local applications also. My experience teaches that the most intensely chronic cases so far from demanding very positive treatment do far better with milder means persistently employed.

In this form of disease, in order to give the patient as much time as possible, and also to expedite what seems in the rush of business to be a tedious operation, I am in the habit as soon as the speculum is in position of closing the circuit (the positive pole being properly located) by attaching the negative to the speculum, thus saving the time consumed in examining, cleansing and making the proper local applications. If desirable to use the current in the cervical canal or within the body of the organ, the same instrument used for conveying the local therapeutic remedy may be the medium of conduction, if the absorbent material used be so saturated with the remedy as to favor perfect conduction. This of course applies to liquid applications, and to those cases where you wish to prolong the application of the current and economize time.

For these applications under ordinary circumstances it is necessary to have the various electrodes manufactured with a view to their adaptation to these special uses. One that will enter the womb, if desirable, one with a ball point for applications to the neck, and one that will distend the vagina so as to diffuse the current and thus influence the entire mucous surface. These have their special uses and to them might be added an anal electrode which is occasionally required.

If desirable (as may frequently be the case) to pass the current directly through the pelvis from back to front, the operator may save time by having a broad sponge so attached to a plate as to present an expanded surface and still so constructed as to completely protect the patient against contact with the plate to which the battery cord is connected. This may be placed well under the patient when in position for treatment, a strip of gum cloth beneath to protect clothing from dampness and with negative pole in the shape of a sponge with holder placed upon the abdomen, may, by the patient, be held in contact under the folds of the protecting cover, while proper internal applications are being made, thus saving time. If desirable to change the current for its influence upon the entire length of spine with positive pole above, the poles can be reversed at the battery head connection, thus changing the course of the current without disturbing the patient.

Thus far we have been dealing with cases of an inflammatory character when either the steady unbroken current was indicated, as for example in that type of cases characterized by enlargement, extreme tenderness, with unnatural firmness to the touch with marked sympathetic derangements when sedation is especially demanded, or that very common condition in which we find engorgement, enlargement, with a texture unnaturally soft and yielding to the touch, in which the interrupted current is especially demanded. If we reflect upon the condition present in the latter class we readily perceive that nothing short of strengthening the nerve force and exciting that contractility necessary to quicken the sluggish and dilated circulatory channels, will enable us to set in motion curative changes. These currents are not so markedly different as might at first appear. In both cases the poles are applied in a similar manner, viz: the positive at the root or origin, the negative at the extremity of the nerve or nerves to be influenced. In both the tone is improved which is the end sought in these apparently dissimilar conditions — while in the latter class we desire to produce muscular contraction and thus in addition through the vaso motor system lessen the calibre of passively distended blood vessels as the most direct means of dispersing passive engorgement. Experiment proves the broken current always produces this effect and experience to my mind proves its utility in the treatment of this particular form of disease.

TYPICAL CASE OF SECOND VARIETY TREATED OR DESCRIBED.

Mrs. P., American, forty years of age, mother of four children, youngest six years old—one subsequent miscarriage; in poor health before this accident, but after this became much worse. My first introduction dates back three years, at which time I was called to visit her at her country home. Found her suffering acutely from what she termed neuralgia—head most severely effected, was able to relieve her present distress and ventured an opinion that uterine disease was the foundation of her whole trouble, and without treatment she would become a martyr to those severe spasmodic attacks.

She dissented and being an intelligent woman expressed her opinion. The sum and substance of which was, if so she would suffer more in that locality; if such terrible suffering sprung from that she would certainly have a more realizing sense of that local trouble.

She had leucorrhœa, which she stated was nothing new for her, a dragging sensation when on foot and other evidences usually present in this form of disease. Could not endure any unusual exertion or excitement without precipitating one of those severe and persistent attacks. Her husband being a politician and a successful candidate, official duty required him to move to the city. She hoped that rest from her former over exercise would restore her. One whole year's trial dissipated that hope. She became so much worse that in desperation she applied for treatment stating she was ready for any precedure that in my judgment promised relief. I must mention one of her remedies and her mode of using it which gives an intimation of the severity of her attacks.

She incidentally stated that turpentine had been of great use, that she had used a half pint in one night on her head to keep from going crazy. So much unavailing treatment had been used that she had lost all confidence in medicine.

I told her that it was not medicine she needed and to demonstrate the correctness of my diagnosis would undertake her treatment for three months without medicine and leave the matter to her good judgment whether any favorable change was produced and whether she should still continue treatment of any kind.

This was a typical case of the second variety treated or described in this paper. All the symptoms prominent except an unusual freedom from tenderness to touch which I presume was the key to her skepticism as to my diagnosis. Treatment pursued was the ordinary astringent local applications with persistent use every fifth day of the interrupted galvanic current—object in view being to invigorate the nerve centres and thus control engorgement and by lessening the calibre of dilated blood vessels to favor contraction and condensation. Enlargement with a spongy feel being a marked peculiarity in this case. She proved a very prompt patient and endeavored by implicit obedience to instructions to make the effort a success. At the end of three months she was more than anxious to continue, acknowledging that she was regaining her lost weight and that her old enemies were thoroughly discomfitted and that she really believed that patience and perseverance would finally put them to rout.

Since February last she has been under steady treatment, feeling at first that she was making a sacrificed to please her husband, who credited my statements; but at the end of a few months said she must frankly acknowledge, so marked had been the change for the better, that she was a full convert to my theory.

Her health is restored, has lately passed through the bustle and excitement of a State fair, entertained company with her old and wonted vivacity and has since told me her power of endurance and freedom from all suffering is simply astounding when she reflects upon the past.

I shall crave your indulgence only to briefly advert to certain conditions requiring a reversal of the electric current.

In all diseased conditions where the local nutritive changes are deficient and that peculiar atonic state obtains to which the term atrophy applies, the indication is to invite more blood to the part and thus by arousing and increasing the activity of nutritive changes promote development.

In the general practice we find frequent use for the current so applied as to produce this effect. We have no disposition to discuss at length the various causes operating to produce amenorrhœa but can readily understand that certain conditions of the womb in which this is a prominent symptom would call for the

influence of this current applied as I have suggested in order to invite an increased supply of blood.

While in practice I have verified this theory and have witnessed marked results in cases of menstrual suppression, I am not unmindful of the fact that in more persistent troubles where uterine atrophy is a marked symptom the departure from health is not confined to that organ alone, but the morbid condition is traceable to the ganglionic centers. Whether the failure upon their part is primary or secondary is difficult to determine, at least in some instances. The diagnosis as to this point must depend upon the history of individual cases. We do find this condition supervening upon some violent uterine attack, in subjects hitherto free from any form of uterine diseases. In such we may safely conclude that the failure upon the part of the nerve centers is secondary, while in the absence of any similar previous history we might be in doubt, the conclusion reached, based upon a complete history of the case will be tolerably satisfactory.

Fortunately the weal or woe of our patient does not hang upon the absolute correctness of this decision. It matters not whether the failure in the nerve centers be primary or secondary, the restoration of that lost or crippled force is the first step in arousing that vital change without which the nutrition of the womb cannot be improved.

In the treatment of such a case the indications are two-fold—the improvement of nervous tone and local increase of elements necessary to support and constantly feed a famished and atrophied organ. To accomplish the latter we would apply to the diseased part the positive pole and alternately use the same current applied as previously recommended for increase of nervous tone and energy.

This involves a reversal of the poles upon the same patient, in which there is not necessarily incompatibility any more than in the coadministration of arterial sedatives and stimulant tonics, a practice in certain conditions not unusual and sanctioned by the most thoughtful and trustworthy practitioners.

In deferred menstruation, dependent upon debility coupled with that anæmic condition for which we constantly prescribe chalybeate tonics, foot and sitz bath, etc., our experience demonstrates that the current judiciously applied proves a valuable adjunct and adds much to the promptness and efficiency of the treatment.

The general public is fast recognizing the importance of and are being rapidly educated to the point of appreciating the efforts of those benefactors, the agitators of sanitary reform.

If physicians could always successfully handle disease; if they could snatch their patients from imminent peril and from the restless ocean of pain and suffering, and safely pilot them into a harbor of rest; even then the sanitarian, who devises means and executes ends that result in prevention, deserves the greater credit and reward. A penny saved is equivalent to one earned, plus the necessary labor to produce it. Who can estimate the difference between continued good health and salvation barely from death after a lingering and painful illness, or between that life of invalidism which so many females suffer, born with average constitutions, but partly through ignorance and inattention to plain hygienic laws suffer derangements while just blooming into womanhood that lay the foundation for a miserable existence, and that exuberence of strength and vitality which belongs to the healthy woman, and which fits her for happiness and prosperity in every sphere of life.

These reflections force themselves upon me as often as I meet those cases which for want of a better name we denominate neurotics. Persons whose nervous systems are as sensitive as a clinical thermometer and who if they escape the full development live upon the brink of hysteria.

Very many young ladies suffer derangements from the habits and customs of the present age (to which I cannot even now refer) that allowed to run on unchecked soon numbers them in the same category. The majority of these are neglected and none but the confirmed invalids get more than a very general tonic and supporting treatment because of the disinclination to special treatment under such circumstances, both on the part of the patient and physician. The proper electrical treatment can be applied without offending the most refined or doing violence to the most fastidious, and for reasons above stated might be more generally used and at a time when "the ounce of prevention would indeed be worth the pound of cure."

We could cite individual instances where to the general plan adopted for the purpose of enriching the quality and increasing the quantity of blood we had every reason to ascribe great credit to the current as a well-timed ally.

Without the current we depend upon improvement in the

blood for our increase of nerve power. With the current we have a powerful stimulant upon those very blood making processes, thus acting in a double but harmonious capacity. How often we meet subjects, so long victims to this neurotic condition, that the whole internal vicera are so functionally deranged, so enervated and devitalized, that there exists almost perfect intolerance to the very choicest remedies which their general condition would seem to demand.

Every avenue through which we operate, looking to blood improvement, seems under an embargo which we are quite powerless to remove unless through some invigorating influence brought to bear upon the general sympathetic system by which functional activity can at least be temporarily aroused, thus giving us a foothold for further operations. As food appropriate to a good sound stomach with perfect assimilation will certainly disagree with the confirmed dyspeptic, so the general class of blood making tonics upon which we confidently rely in debilitated systems, not otherwise diseased, will in these cases disagree and disappoint, so long as this extreme nervous depression exists.

Improve the dyspeptic's power of assimilation and the same good food is better borne. Stimulate and invigorate the enervated nervous system and the improved power of assimilation, so to speak, will enable us to use remedies that otherwise would not be tolerated. This is the province of electricity. It arouses functional activity, stimulates the vital forces and figuratively speaking raises this blockade of stagnation and allows your remedies to gain access to the blood, to reach their proper destination and accomplish their intended mission.

This at first glance might seem a digression, but this peculiar diseased condition is becoming so common and so large a per centage of such suffering can be referred to actual uterine derangements, which in the future as in the past, will if not staid in its progress develop into the most intractible forms of uterine disease; that we feel called upon to enter our protest against the laxity of the profession generally, as manifested in the treatment of these unfortunates. These cases have become the opprobrium medicorum. Because of the unsatisfactory results of the ordinary modes of treatment, both patient and physician become discouraged and indifferent, and for obvious reasens the sufferer naturally drifts into the hands of the charlatan, not because of any strong faith or confidence that she will be cured but for the same

reason that a drowning man will clutch even a straw. We are not of the opinion that in electricity we have a sovereign remedy that will revolutionize, build up and make such robust, but we do feel that a large per centage might have been successfully treated if taken in hand at the proper time, and untold suffering and misery might have been measurably averted.

We also feel that no one is so well prepared to treat such as the practical gynæcologist, since no one can be so fully alive to the consequences of neglect as he who has spent years in trying to overcome the evils and ameliorate the sufferings which sooner or later overtake all who from any cause fail to make use of the opporture period for obtaining relief.

ARTICLE X.

AMERICAN HELLEBORE, (VERATRUM VIRIDE).* By J. T. BINKLEY, M. D., of Shawneetown, Ill.

The active ingredients have been satisfactorily settled by Peugent, and others, who have demonstrated it to be an alkaloid identical with that obtained from veratrum album. Peugent, called it veratrine; a second alkaloid called viridia by Bullock, is identical with Jervoie of Simon's.

We are also informed that it contains no irritant poisonous resin, corresponding with that found in veratrum album.

It has been conceeded by most investigators that the combination of the two alkaloids found in the veratrum viride, "forms the best representation of the medical virtues of the genus veratrum. The physiological action of the different alkaloids separately or even combined are too numerous to enter into in detail."

However, I will call attention to a few. Veratrine possesses in a high degree those peculiar properties, characteristic of all the species which contain it. When applied directly to the skin, or mucous membrane, it produces a hot burning sensation, and if continued will produce redness and in many instances pustulations. Applied to the skin in a dilute form, it will produce local anæsthesia. Taken into the stomach, or subcutaneously injected, it is absorbed with great rapidity and soon produces its peculiar effects. Yet when thus introduced, its effects are varied and uncertain; some sweat profusely, in others much diuresis: a third sneezing or lachrymation or purging or all.

One of the most constant phenomena, is the steady descent of the pulse, which often reaches a very low level.

Given in larger doses, it produces emesis, purging, depression and slowness of pulse, slow, prolonged deep respiration and salivation.

*Read before the Southern Illinois Medical Association, held at Cairo, Ill., January, 1880.

QUINAMINE

AMORPHOUS, UNCRYSTALLIZABLE QUININE

Comprising other valuable constituents of PERUVIAN BARK, such as CINCHONIDIA, QUINIDIA and CINCHONIA, with some coloring matter.

PRESCRIBED IN THE SAME MANNER AND DOSE AS QUININE.

The experience of old practitioners confirms the belief that preparations of the Peruvian Bark in many cases are more potent in arresting intermittents than Quinine, therefore a preparation comprising the average constituents of Peruvian Bark, definite in its composition, supplies a want long felt, and it is this which induces us to offer Quinamine as the most desirable preparation in lieu of Quinine.

We are free to confess our belief that there is no substitute superior to Quinine, that is to say, that there is no substance equally as potent and reliable now discovered, that will replace this valuable and well tried remedy; but there has been an increasing demand for a cheaper substance than Quinine, and in accordance with this requirement we have made the nearest approach to what is desired, in the discovery of the new Antiperiodic, Quinamine.

Excepting Amorphous Quinia, the other constituents of Quinamine have long been used with much success. The U S. Dispensatory informs us that Cinchonia may be used in place of Quinia, by increasing the dose one-half; but we think this is scarcely correct. Cinchonidia has of late been much employed in place of Quinia, and the well known house of Powers & Weightman has taken great pains in furthering its introduction and lauding its efficacy. It constitutes from thirty-five to forty per cent. of Quinamine, but Quinidia and the uncrystallizable Quinine comprise the most valuable constituents.

Physicians will find it to possess all the advantages claimed for it, while the cost is about one-third of that of Quinine, at its present price. The manner of administration and dose are the same. It may be given in powder or pill, or in solution by the addition of an acid, as in case of Quinine.

Price, $1. 25 per oz. sent by mail. 100 Pills, 1 gr. 70 cts.
100 Pills, 2 grs. $1.35 100 Pills, 3 grs. $195.

PREPARED ONLY BY

WILLIAM R. WARNER & CO.

MANUFACTURING CHEMISTS and WHOLESALE DRUGGISTS,

PHYSICIANS' SUPPLIES A SPECIALTY.

PHILADELPHIA.

Patented in Great Britain and Ireland, France, United States of America and Canada, 1876.

JOHNSTON'S FLUID BEEF,

A Concentrated Preparation for Nutritious Beef Tea or Soup, containing the entire azotized constituents of the Beef.

THE MOST PERFECT FOOD FOR INVALIDS EVER INTRODUCED.

Specially Recommended by the Medical Faculty.

The efficacy of "Liebig's Extract of Meat" as a harmless stimulant is everywhere acknowledged, but, outside medical or scientific circles, it is not generally known that all extracts of Beef, including home-made beef tea, are simply flavor of meat, (technically, the soluble salts of flesh,) and ARE NOT IN ANY REAL SENSE NUTRITIOUS, the process of preparation necessitating the entire exclusion of the insoluble or nutritious constituents of the Beef.

The medical profession has long realized this vital imperfection in all extracts of meat, and desiderated a food for invalids which shall combine the stimulative and nutritious properties of Beef, and be at once palatable and easily digestible. THIS PREPARATION CLAIMS TO MEET THE WANT. It has been submitted to the most searching chemical analysis by the leading analysts of Great Britain, and has been adopted in their practice by the highest medical authorities, all being as one in their appreciation of its substantial merits. It is now offered to the notice of the medical faculty of this country and to the general public, with full confidence that it has but to be known to be popularly accepted.

To obtain a perfect Beef Tea, it is essential that the albumen and fibrine (which are the flesh-forming or nutritious qualities of meat) shall be added to the extractive or stimulative qualities, and that these shall be present in a form admitting of easy digestion by the most capricious and irritable stomach. This is the theory which led to the preparation of "JOHNSTON'S FLUID BEEF" (the only meat extract which fulfills all the conditions of a perfect food.

Dr. Nichols, 131 Spruce street, Philadelphia, says: "I have used it in a case of a child suffering from extreme debility after an attack of cholera infantum; the child began to improve immediately, and is still taking the Fluid Beef. I find it very palatable and nourishing, easily digested, and am satisfied that the contained fibrine is perfectly assimilated by the tissues of the body, as shown by a great gain of strength, etc. I feel assured it will meet with general favor."

Dr. Malcom Macfarlane, 1805 Chestnut street, says: "It is with unusual pleasure and confidence that I give my recommendation to Johnston's Fluid Beef. It is in the best form and the best preparation with which I am acquainted or have used."

JOHNSTON'S FLUID BEEF is now extensively used in British and Continental Institutions, Hospitals and Asylums, and is prescribed by the medical faculty wherever it has been introduced.

Its adaptability is general to the invalid, the convalescent and the vigorous. To children it secures a strong muscular development, and for maternal nursing, imperfect mastication, athletic training, physical exhaustion, indigestion or mental overstrain, it is the perfection of known food.

DIRECTIONS FOR USE. Add a small teaspoonful to a cup of boiling water, and season to taste: or as a sandwich paste it may be used on toast, with or without butter. The can may remain open for weeks without detriment to the contents.

Sold by Druggists and Leading Grocers. Price 35 c., 60 c. and $1.00.

Robert Shoemaker & Co., Philadelphia, General Agents, U. S.

RICHARDSON & CO., Wholesale Agents, St. Louis.

Administered in fatal doses, it produces violent vomiting, intense depression of the pulse, collapse and tetanic spasms, followed by asphyxia and death. Notwithstanding these violent symptoms, there is no inflammatory indications found about the alimentary canal after death.

Veratrum viride contains both of these alkaloids, and when given in large doses produces depression of the pulse, nausea, persistent vomiting and complete relaxation of the entire system. The skin is cool, pale and covered with cold clammy sweat; the pallor frequently becoming extreme.

Experiments upon man and animals with veratrum viride, show that it acts chiefly upon the respiratory, circulatory, and digestive systems; rapidly decreasing the force and frequency of the pulse, nausea, vomiting, diarrhœa and reduction of temperature. Hadlock concludes from his experiments that it acts primarily upon the heart, Squary thinks it acts specially upon the heart and very like digitalis in its action.

THERAPEUTIC ACTION.—In the last twenty years veratrum viride and its alkaloids has attracted considerable attention in this country. Its alkaloids have been used to produce anæsthesia in neuralgia and other painful local affections.

Veratrum viride has been used internally in almost all the phlegmasia and many forms of pyrexia. There is no doubt of its antipyretic effects, as it never fails (when properly used) to reduce the frequency and force of the pulse, and lower the temperature in febrile affections: yet there are fevers in which I would not advise its use. It has been more extensively used in pneumonia, acute rheumatism, pleurisy, etc., than other forms of disease in this country; and it is to the first of these I design making a few suggestion.

My attention was first directed to the use of the drug in pneumonia; during the autumn and winter of 1858-9. In Hardin County, State of Illinois, bordering the Ohio river and some of its tributaries. The summer preceding was very wet, and followed by an unknown prevalence of malarial fever, (possibly, not a family, and scarcely an individual, in the upper end of the county escaped). The attacks were unusually severe, so reducing many, that they easily succumbed to pneumonia and other inflammatory diseases; during the fall and winter, which was very changeable, raining, freezing, sleeting and snowing continually.

During this extraordinary season, it was my lot to treat some twenty-five well defined cases of pneumonia, pleuro-pneumonia, etc., all of whom recovered but two.

At the onset of every case I made it a point to clear the primæ viæ of all ingesta; and during the subsequent treatment, attend to the secretions, evacuations and local appliances.

In addition, I used the fluid extract of veratrum viride, usually commencing with from three to six drops, and increasing one drop every three hours until I reduced the circulation, temperature, respiration and pain. I almost invariably find my patients more comfortable in every respect, when I can get them fully under the influence of the medicince. Less fever, expectoration freer and easier, capiliary disturbance of the face greatly relieved, with general improvement, which by continuation of treatment lead steadily to *convalescence*. And that too, more speedily than when treated by the rules laid down by our standard authors. I have but little faith in specifics, claim no such potency for the drug in question, nor do I think all cases of inflammation of the lungs and their coverings would be even benefitted by this treatment. Yet I am satisfied the majority of sthenic cases would be benefitted, and sooner restored than by our former *antiphlogistic* treatment.

I do not wish it understood that I ignore cinchona and its alkaloids, together with many other valuable adjuvants, for I do not, but exercise my judgment in choice.

In sthenic cases, where considerable lung tissue is involved, disease rapidly spreading by contiguity, the early and free use of the drug will generally arrest further extension and soon relieve that already involved; by removing the increased heart force, thereby aiding the dilated and over distented capillaries to regain their normal size.

I am led to this conclusion from years of experience, and am satisfied that it assists and hastens the absorption of the extravasated sanguineous fluid, thus, sooner restoring the lungs to their normal condition.

Proceedings of Medical Societies.

ILLINOIS STATE MEDICAL SOCIETY.

THIRTY-SECOND ANNUAL SESSION OF THE ILLINOIS STATE MEDICAL SOCIETY, HELD IN THE ACADEMY OF MUSIC, AT BELLEVILLE, ILLS., MAY 18TH, 19TH AND 20TH, 1880. [Reported for the JOURNAL, by Dr. A. H. OHMANN-DUMESNIL.]

[CONTINUED.]

REPORT OF THE COMMITTEE ON PROGRESS IN SURGERY, BY DR. WM. HILL, OF BLOOMINGTON.

In his selection the author felt that he had omitted some things and admitted others that seemed trite and stale. The past year had not been an eventful one in surgery.

An epoch of unbelief is always barren of advancement. There are some who still remain within the rut of old-fashioned manners. There are some surgeons who cut through the prostate and neck of the bladder instead of the urethra; others who cut into the abdomen in hernia instead of pushing up with the finger.

Antiseptic surgery made a great advance to prevent putrefaction in blood and serum. Gay Lussac thought that oxygen was the cause and hence he concluded that it was absolutely impossible to prevent putrefaction, and when, as Pasteur claims and proved, it is caused by organisms it became a question as to the method of killing them without injuring the tissues. Carbolic acid did this and in 1867, Prof. Lister published his views on this. When putrefaction sets in, the wounds do not suppurate.

There are many unbelievers in the antiseptic plan who nevertheless use it in compound fractures. Prof. Mott, of Belleone N. J., is a stanch opponent. From my little experience I am fully convinced of its merits. I had the pleasure of observing its effects in July last, in an amputation of the thigh Dr. White operated; 1-32 carbolic spray was used, carbolized catgut to ligate all except the femoral artery, when carbolized silk thread was used. This latter was also used for the flaps on

account of the want of strength of the catgut. Carbolized adhesive plaster, gauze, oiled silk and bandage completed the dressing. The patient was given morphine. For the next eight days there was little or no dressing and hardly any inflammation.

On the eighth day on removing the dressing the stump was found clean and sweet and united by first intention. Carbolic acid, however is not the only antiseptic used in surgery; we have also one in thymol which has not the disagreable odor of carbolic acid. Thymic acid is acrid and caustic, but diluted it has the taste of thyme, has a cooling sensation and is dissolved in one thousand parts of alcohol. Lister and others pronounce it equal, if not superior to carbolic acid. Dr. Barnes uses it and considers it as good.

Benzoic acid is also pushing forward its claims. It may be dissolved by adding to it equal parts of borax and then adding 100 parts of water to this.

Any physician who denies the benefit of antiseptics ought to be censured.

Quite a number of successful cases of extirpation of the kidneys have been reported during the year. Dr. Smith operated by making an incision on the right side in the lumbar region. The muscles and fascia were cut through and the kidney found in the umbilical region. It was secured, the vessels and water ligated and the organ detached, the ligature being left hanging outside. On the eleventh day the patient rose and had no outward symptoms.

In the *Medical Record*, of March 1879, there is a case of a cyst of the kidney, taken from *France Médical*.

The author gave an account of two cases of cancer of the rectum treated by excision.

Also an account of an operation for uretero-uterine fistula, which appeared in the *Archives of Gynæcology*.

He spoke then of rodent ulcer and epithelial cancer. The latter is most frequently found on lips, eyelids, etc.; does not extend into the cutis, whilst the rodent ulcer does. However no plan of treatment gives as much satisfaction as scraping.

Case I.—Thos. O'Brien had a rodent ulcer of the lower lip for three years. It had indurated edges; the submaxillary and superficial cervical glands were enlarged. The diseased tissue was thoroughly scraped out with a scrapel and freely scarified. Carbolized cosmoline was used for dressing and in two weeks

the excavation was filled up with granulations and in two more weeks it had entirely healed, there being no apparent sign of return.

Case II.—Mr. Rowth, of Petersburg, aged 50, had a rodent ulcer for 12 years. Scraped and treated it as in the other case. There was not such exuberant granulations, but it did well, the wound healing in less than four weeks and no signs of return.

Case III.—A middle aged man applied to me in April, 1879, for an epithelial cancer of the lower lip. I removed it by cutting a V shaped piece; closed the wound with hare-lip suture and in two weeks it was apparently well. In July it returned. I scraped the lip and had the same gratifying results as in the other two cases related before. There are no signs of return up to date.

The improvements in the methods of correcting deformities of the bones are numerous and ingenious. For the correction of genu valgum Dr. Austin, of Aberdeen, sawed out V-shaped pieces of bone. He has been eclipsed by others who use the chisel. At first a longitudinal incision is made and the chisel introduced and driven into the condyle at its centre, and driven upwards and then downwards until the condyle is divided so as to admit of easy fracture. The foot is abducted and placed in a straight position, and the compound fracture left to be treated antiseptically.

Frank Hamilton has published in the *Hospital Gazette* of Sept. 6th, 1879, a study of one hundred cases of fracture of the patella. I had a case of re-fractured patella and could not approach the fragments. I left the patient with the precaution to keep quiet, and after six months time he had a good and useful limb, although he had exercised it.

I will now read an account of two cases, sent to me by Dr. Cole, of El Paso.

Case 1.—A lady, whose weight is 200 pounds, was thrown from an open buggy and lay for some time on the roadside in a pool of blood. On examination it was found that in one of her limbs all the soft parts opposite the ankle joint were almost severed; the tibia protruded four inches and was completely denuded. The fibula was broken two and one-half inches above the lower extremity. The foot was turned outwardly and on the leg. The anterior and posterior tibial arteries were not severed. The internal malleolus was excised; the wound was sponged with a weak solution of carbolic acid and the

tibia returned to its place. A wooden splint was placed on the inside of the leg, the wound was closed and surrounded by manilla rope fibres. Cold water was kept continually dropping on it and morphine administered. The next day the patient was comfortable. She was placed on a hard straw bed and the leg suspended. On the fourth day the external wound was declared healed by first intention. The water was continued, its heat being gradually raised. The wound continued to heal by granulation at its lower part. In a few weeks a few pieces of exfoliated bone were removed. The wound filled up and four months after the occurrence of the accident, the lady rode to town. The wound was not entirely healed then but it closed completely in a few months; the patient suffered from neuralgia in the foot for about one year. The lady at present does her own work and wears the same size of shoe, and though flexion and extension are somewhat imperfect the motion is not destroyed. [Photographs of the case before and after recovery were passed around.]

Case II.—A young man, aged 18, tried to jump on a freight train and had his left foot caught between the rail and a wheel of the car, crushing and destroying the arch of the foot. Three hours after I saw him at his home. The foot was so swollen that a diagnosis could not be well made. On inspection found that the tarsal and metatarsal bones had been dislocated and crushed, but still thought of attempting to save the foot. The wound was closed without sutures and completely enveloped with southern moss, to be kept wet with ice water and carbolic acid. In about six days there was sloughing of the dorsum of the foot and the wound on the under surface opened from the amount of swelling. Waited some time before exploring for loose pieces of bone. Finally did explore with silver female catheter and removed a large piece of necrosed bone and put in a large tent of oakum to be removed twice daily. The sinues to to be injected with suds of Castile seap, and after with carbolic acid water. The carbolized moss was continued. New sinuses appeared and tents were put in each and the necrosed bones removed. The foot was kept under perfect drainage. Many pieces of necrosed bone were removed. In five months after the receipt of the injury he followed a threshing machine. His foot although somewhat flattened, is good and useful.

SUB-REPORT (OF TWO CASES) BY DR. J. S. HARVEY, OF GROVE CITY.

Case I.—Extirpation of Parotid Gland.—A. N. Ward, thirty-seven years old, had a tumor in the left parotid region at the age of two, and it increased till he was fifteen years old. It then suppurated and reduced in size. It enlarged again when he was thirty and in 1878 it again suppurated. At the time of operation it was the size of a goose egg. It was dissected out from below upwards. There was considerable hemorrhage.

There was a good and speedy recovery, carbolic acid being used in the dressing. There resulted from the operation numbness and paralysis of the face, on that side. The paralysis has almost disappeared but the numbness still persists. The first operation of the kind was performed by Dr. Warren, of Boston, in 1798. The operation is not such a formidable one as laid down in authors.

Case II.—Unusual case of Hernia. Melia M——, aged thirty-seven, was taken with the following symptoms, Feb. 4th, 1872: She was suffering from strangulation of an old femoral hernia. On the 7th she vomited stercoraceous matter. She was given opium and fed by means of a tube. It was resolved to operate. The tumor was cut and the sac was of a dark color, and a band existed surrounded by a tumor. The bowel was healthy except a small portion, and was returned. The tumor was removed from the sac. It was twenty-five days that passed from the first obstruction till operative measures were taken. The recovery was good. The latest and best radical cure is by injection of the rings.

DISCUSSION.

Dr. Bird, of Quincy—Had a young man who had been struck in the heel by a train. It occurred two years ago. His leg was put in lateral plaster splints. As to the remarks made in regard to strangulated hernia: Have had fourteen cases, of which three died. The oldest was a lady eighty-seven years old, and among them also a man seventy-six years old.

In regard to wiring the fractured patella: Dr. McDowell a long time ago told his class that Dr. McClelland was the first one to do this, and the method is not European.

I have extirpated the rectum twice. Take two wire hooks and cut the tissues with a galvano-cautery. On February 28th, 1878, I took out some two inches in length and left the sphincter.

Dr. C. G. Parks, of Chicago—It is a dangerous thing to attempt a reduction in cases of strangulation, because in attempting a reduction that way, not only the gut but the whole mass may go in. Besides, antiseptic surgery has demonstrated that abdominal sections are much less dangerous than formerly.

"Thymol has proven as successful as carbolic acid," Dr. Hill says, but I do not agree with him. I did not like carbolic acid and used thymol. We had the cases treated with both of these antiseptics, side by side, and those treated with thymol did not do as well.

Mr. Callender, of London, has a much simpler and less expensive method than Lister. He uses a two per cent. solution to freely wash the parts and wounds, and invariably closes them with wire and puts a drainage tube and four folds of lint, soaked previously in 8.5 per cent. carbolized oil, and finally oiled paper over all. His successes equal those of any surgeon, not excepting Lister. Callender's method I witnessed in operation at Bartholomew's Hospital.

In regard to rectotomy: Had an interview with Mr. Cripps, of London, who has done much to introduce it. The cases for this procedure are those of but a short duration and having but a small amount of tissue involved. In four of five cases I saw operated the peritoneum was opened. The operation is not justifiable, so far as results are concerned. The great danger is opening the peritoneal sac.

Have no doubt that Dr. Bird's idea of using the galvanocautery is better than the knife or scissors.

Cripps has had but two successful cases. He uses no tubes for drainage and no sutures whatever.

There have been two cases of successful interference in fracture of the patella by wiring together the fragments, by Messrs. Lister & Bell.

Dr. Hill, of Bloomington—In 1855 I operated for strangulated inguinal hernia. I put my finger in the ring and found it give way. In six months I cut down to the sac and found the stricture had given way external to the sac. The gentlemen say that it is a dangerous thing to put the thumb in the ring and dilate it. They say you make pressure on the intestine; but you do not. You make pressure upward and inward and shove in the protruded sac.

SOUTHERN ILLINOIS MEDICAL ASSOCIATION.

The regular semi-annual meeting took place at Shawneetown, Gallatin County, June 23, 1880, in the Court House, Dr. W. A. Gordon, of Chester, the President, being in the Chair and calling the meeting to order at 9:45 A. M.

Rev. V. C. Evans of the Methodist Church, offered up a prayer.

The Secretary being absent and the books not received, the minutes of the previous meeting were dispensed with. Dr. J. H. Norris, of Metropolis, was appointed Secretary *pro tem.*

The Board of Censors not being present, the following members were appointed to fill their place: Drs. M. S. Jones, L. Dyer, G. W. Gordon, J. H. Norris and J. T. Binkley.

The following applied for membership and were admitted: H. C. Mitchell, of Corinth; T. M. Bartley, of Ridgway, Gallatin County; Geo. Mozee, of Cavin Rock, Hardin County; Chas. T. Hunter, of Springerton, White County; Ed. Mayer, of Du Quoin; Lucien W. Gordon, of Equality, and W. S. Swan, of Enfield, White County.

A letter from Dr. Engelmann, of St. Louis, in reference to the position of women in labor, was placed on file. A letter from J. K. Rainey, of Salem, asking to be excused for non-attendance, was also filed.

A letter from M. S. Parsons, of Murphysboro, to the Board of Censors, was read. From his promises his intentions were judged good and he was re-instated as a member.

The Association then adjourned till 2 P. M.

AFTERNOON SESSION.

The meeting being called to order Dr. J. T. Binkley, of Shawneetown, made an address of welcome on behalf of the local committee.

Dr. Dyer, the Treasurer, then called attention to the fact that there were bills remaining and unpaid for. On motion they were put on the table till the next annual meeting.

As there seemed to be no papers to read, Dr. Dyer, of Du Quoin, read a number of questions which he thought would elicit discussion. The first: "What would you do in a case of malarial spasms in a child?" was discussed at some length.

The next question, which elicited quite a number of opinions, was: "As food for infants and children, should milk be boiled? If so, why? If it should not be boiled, why not?"

After the above had been thoroughly ventilated the following interesting question was discussed at some length: "Should swollen gums, during dentition, be scarified?"

Dr. J. T. Binkley, of Shawneetown, read an interesting paper on disease of the sacro-iliac synchondrosis mistaken for rheumatism and morbus coxarius by previous physicians. This paper elicited quite a number of remarks.

Dr. H. C. Mitchell, of Corinth, reported a case in which after delivering a child and retained placenta he discovered a polypus attached to the fundus of the uterus, and it had probably grown there during pregnancy. Quite an interesting discussion followed, some remarkable cases being mentioned.

A recess was then taken till 8 P. M., to meet at the Presbyterian Church. When assembled Prof. John T. Hodgen, of St. Louis, delivered a lecture on "Habit," and was followed by Dr. Dickinson, of St. Louis, who chose for his subject: "Our Eyes—their abuse, the consequences and the remedy."

Both lecturers were well received by the appreciative audience present. After the lecturers were through an adjournment till 9 A. M. the following day was had.

MORNING SESSION—JUNE 24, 1880.

The meeting was called to order at 9:20 A. M., the Vice-President, Dr. Bundy, of Marion, being in the Chair.

Dr. Dyer moved that the Secretary be instructed to have the minutes published in some newspaper and that a copy of this paper be sent to each member as soon as possible. The motion was carried.

The Secretary read a telegram from Drs. Booth & Guthrie, of Sparta, tendering greetings.

The next business was the location for the meeting of January. Du Quoin was chosen, the time of meeting being the third Wednesday in January, 1881. The Committee of Arrangements consists of Drs. L. Dyer, J. H. McLane, M. C. Carr and Ed. Mayer.

Prof. Hodgen was requested, by the Chair, to speak on some subject, and chose the details of tracheotomy, which he thoroughly ventilated. The discussion aroused by this subject em-

braced the relative values of chloroform and ether as anæsthetics.

Dr. Bundy, of Marion, reported a case of diffuse cancer.

Dr. Dyer made some remarks concerning physicians' fees, but no action was taken thereon.

The meeting adjourned to 2 P. M.

AFTERNOON SESSION.

Called to order at 2:30 P. M.

"How do you treat incontinence of urine in children?" was a question propounded by Dr. Dyer and answered several different ways by members.

Dr. Binkley, of Shawneetown, presented a patient, a negro woman, with a large tumor on the right side of jaw. It was examined and pronounced most probably malignant.

Iodide of potassium and its effects and idiosyncrasies in its regard were discussed, and the Association took a recess till 8 P. M., after having passed a resolution of thanks to the Committee of Arrangements, the citizens of the town and the railroads.

At 8 P. M. the members re-assembled at the Presbyterian Church to hear Dr. C. H. Hughes, of St. Louis, lecture on "Hallucinations, Illusions and Delusions." The lecture was very well received by all present.

Dr. Dyer, of Du Quoin, next arose and addressed the audience, explaining to them the objects and aims of the Society.

After his remarks were ended the Association adjourned *sine die*.

The attendance on the whole was small, most probably on account of the difficulty of access to Shawneetown. However, all those present endeavored to make the meetings as interesting as possible and succeeded in passing the time very usefully.

PROCEEDINGS OF THE ROLLA DISTRICT MEDICAL SOCIETY, HELD AT SALEM, MISSOURI, MAY 26TH AND 27TH, 1880.

Society called to order by the President, Dr. John Fetzer, of Rolla, Mo.

The following members were present: Dr. J. S. Frost, of Phelps County, Mo.; S. F. Arthur, M. D., of Edgar's Spring, Mo.; Dr. W. M. Lenox, of Lake Spring, Mo.; Dr. T. J. Coffee, of Steelville, Mo.; M. Godbey, M. D., O. P. Gray, M. D., and J. E. Thompson, M. D., of Salem, Mo.

On motion, Dr. T. J. Coffee was appointed Secretary *pro tem.*, as the Secretary, Dr. Storts, of Rolla, was absent.

On motion, Drs. Thompson, Coffee, and Lenox, were appointed committee on programme.

On motion, Drs. Thompson, Lenox and Frost were appointed committee on memorials.

On motion, Drs. Thompson, Arthur and Gray were appointed committee on admissions.

Dr. Thompson read a letter from S. H. McManigle, M. D., of Bourbon, Mo., stating his inability to be at the present meeting of the Society.

Dr. Thompson, Chairman of Committee of Admissions, reported favorably upon the applications of Sam'l C. Gibson, M. D., of Steelville, Mo., Lewis B. Craig, M. D., of Salem, Mo., Dr. T. C. Nichols, of Lake Spring, and Dr. C. S. E. Shuttee, of West Plains, Mo., for membership, when they were elected, and welcomed as members of the Society.

On motion, Drs. Thompson, Lenox and Gray were appointed to wait on Prof. Louis Bauer, M. D., of St. Louis, Mo., and invite him to be present and participate in the discussions of the Society. After being introduced, Dr. Bauer made a nice talk, which was responded to by the President in a very happy manner.

Dr. J. E. Thompson called the attention of the Society to the subcutaneous use of ergot fluid extract in hæmorrhages, and reported a case of hæmorrhage from the small intestines, in a young lady, æt. 15, which occurred at the beginning of the second week of typhoid fever. The doctor stated that there might be some question as to whether the case referred to was typhoid

fever or a complication—entero-collitis, occurring in connection with measles—as the latter disease prevailed throughout the city and county very generally. The lady had frequently been exposed to them, but was said by a good physician to have had measles when she was seven or eight years old. She had had a very high temperature for a week, preceded by general lassitude of a week's duration. About the time the fever began she had all the catarrhal symptoms of measles, but rash, which did not occur till the end of the first week of fever, was not papular nor general, but was confined to the chest, and more particularly on the sides of the chest, and was rose-colored, and like flea bites; not the crescentic blotches of a dark red, as in measles. There was no pulmonary trouble; the bowels had been constipated for the past week. Had usually slept well, except when disturbed by a headache. The mother thought her daughter had chills the first week and had given her twelve grains of quinine daily for a week; the last day had increased it to twenty grains, without arresting the fever. For the week previous to the hemorrhage she had been treated upon the supposition that she *might* have measles. Three days before the bowel bleeding, the doctor was called and prescribed. But whether it was measles or typhoid fever, the hemorrhage was fearful; in one hour she was prostrated; pulse small and 140; stomach sick and constantly wanting air and water, which was ejected as fast as swallowed.

The principle was the same as far as the use of the ergot was concerned, which was the point he wished to direct the attention of the Society to. Fluid extract of ergot was used in half-drachm doses undiluted and repeated every 30 minutes until three doses were administered. The needle was inserted between the fasciæ and the muscle—first in one arm then in the other; no abscesses followed. In a few minutes after the last dose the bleeding ceased and did not return. Broken down, decomposed coagula passed from the bowels for four days but no fresh blood. The blood was arterial and ran in a continuous stream from the rectum for over one hour. Five drop doses of the ergot was given every three hours after the hypodermic use of it for twenty-four hours. After the fourth week convalescence was fully established and the young lady is now able to sit up. The temperature ranged from 101.50° to 102° Fahr., A. M., to 103° to 104.70° Fahr. in the evening, for four weeks. I did not use quinia as an antipyretic, but used muriatic acid, milk, brandy,

and Liebig's extract of beef, with morphia sulphatis gr. 1-10 at bed time. The doctor stated that his attention had been called to the subcutaneous use of fluid extract of ergot and ergotine in hæmoptysis, by Prof. R. M. King, of the College of Physicians and Surgeons, of St. Louis. He did not know that it had been used in this manner in bowel hemorrhages, whether in typhoid fever or not, but it was certainly worthy of trial by the profession, especially in typhoid fever, as the hemorrhages in that disease were generally regarded as a fatal sign. A very spirited discussion upon the points spoken of by Dr. Thompson, in which Drs. Sam'l C. Gibson, Coffee, Lexox, Fitzer and Louis Bauer participated.

Prof. Bauer addressed the Society at length upon "Fractures of the Shaft of the Femur." He gave much attention to the views of Dr. Hamilton, of New York, upon their treatment, taking strong grounds against the assertion of Dr. Hamilton that "shortening must take place from muscular contraction." He very clearly and logically demonstrated the utter fallacy of the theory that muscular contraction could be overcome by weights attached to straight or extention splints; and that the semi-flexed condition of the limb was the normal position of rest and relaxation of this contraction, which Dr. Hamilton claimed, would cause the lower fragment to over-ride the upper, and thus produce shortening. Dr. Bauer demonstrated very clearly that it was the upper fragment that did the over-riding downward, caused by the weight and forcible inclination of the body towards the fractured limb, while the lower fragment was so firmly and immovably fixed in the straight splint, with a sand bag attached to it to overcome the muscular contraction. This inclination on the part of the patient would be involuntary, to get relief from the painfully restrained position of the fracture, so unnatural and so unlikely to give rest to Hamilton's contraction hypothesis. The Professor advocated the use of the double inclined plane, as the most rational way of reducing and fixing the position of the fracture most favorable for speedy union without shortening. That there would not be shortening he did not deny, but that the shortening was owing to muscular contraction and over-riding of the lower fragment he did deny. There would be more or less absorption of the provisional callus and proliferation of the cancellated bone tissue, which would account for shortening even under the use of the double inclined plane.

Dr. Craig presented a man with a supposed incomplete fracture of the tibia, for examination and operation. Some ten days before a boulder of iron ore had fallen against the limb, but caused no inconvenience at the time, being able to work for several days, when the leg became painful and swollen. Upon examination no fracture could be detected, but the periosteum was involved over the entire anterior half of nearly the entire shaft of the tibia, and also that of the central portion of the fibula. Prof. Bauer detailed the anatomy of the periostium very minutely, as well as the pathology of periostitis and osteomyelitis. As there were evidences of bone-sand, he stated that there most likely was osteomyalitis to some extent. He recommended the subcutaneous division of the periostium as the best means of cure, as it would give relief to the excessively painful tenderness. He accordingly by request of Dr. Craig divided the periosteum, applied a flannel bandage and sent the man away relieved of pain. The Professor stated that there most likely was or would be pus upon the surface of the bone which should be evacuated when it was detected.

Dr. J. E. Thompson presented a boy six years old, who had what was commonly called "scrofulosis." Upon bareing the boy's trunk the doctor pointed out an antero posterior curvature of the thoracic vertebræ. Three or four of the vertebræ and their intervening cartilages had lost their flexibility, as was demonstrated by snspending the boy by the chin and occiput. The case was of two years' standing. Sayre's plaster jacket had been used for several months without any benefit, though they were applied as directed by Dr. Sayre. The doctor stated that he had abandoned the Sayre's jacket many months ago. From the history of the case he concluded the disease of the vertebræ was of traumatic origin, as the boy was an exceedingly active, live fellow, and had gotten several tumbles. Prof. Bauer delivered an interesting clinical lecture on the case, reviewing critically the generally taught and received doctrines of the so-called scrofulous diathesis, denying the existence of any pathological anatomy of scrofulosis, reviewing at length the views of Nelaton and other eminent scrofulosis pathologists, from the dark ages down to the present. That such cases generally grew sickly as the disease of the vertebra advanced as was the case in all joint and bone diseases. During his surgical career of over 40 years, he had seen several cases where the anterior portion of the body of

the vertebra had been fractured by traumatic causes. One case, where a child had fallen flat on its back on the pavement, and fractured the body of the vertebra, the pathological specimen of which could be seen in the collection of the St. Louis College of Physicians and Surgeons. The Professor claimed that the only rational treatment of such cases was rest in the horizontal position, while the spine was immobilized by means of the *cuirass*, a full description of which could be found in his work on Orthopædic Surgery.

On motion, the Society took recess till 8 o'clock, Thursday morning.

SECOND DAY, MAY 27TH, 1880.

Society called to order by the President.

Dr. J. E. Thompson, Chairman of Memorial Committee, reported the following resolution:

IN MEMORIAM—WILLIAM E. GLENN, M. D.

As it has pleased Almighty God to remove from among us William E. Glenn, formerly of Rolla, Mo., and late of Leadville, Col., and our appreciation of his merit as a citizen, his ability as a physician and surgeon, and his intellectual worth and usefulness as a member, and one of the founders of the Rolla District Medical Society, both while serving as its President and as a private member, be it resolved:

1ST. That while we bow with submission to the Divine will, we deeply regret his loss as a brother, as a citizen, a friend of science, and as a member of this Society and of the medical profession, for the promotion and advancement of which he spent his time, energy, and talent, in a manner that caused his influence to be felt in whatever community his lot was cast.

2ND. That we extend our sympathies to his friends and relations, and request that a copy of these resolutions be furnished them, and that one page of the journal of this Society be set apart in memoriam of his death, and that these resolutions be published in the St. Louis MEDICAL AND SURGICAL JOURNAL and *Clinical Record*.

J. E. THOMPSON, M. D., *Chairman.*
J. S. FROST,
W. M. LENOX, } *Committee.*

MAY 26TH, 1880.

ELIXIR

PHOSPHATE IRON QUININE AND STRYCHNIA.

It is many years (quite fifteen) since we asked the attention of Physicians to the above Elixir. It has been very largely prescribed with uniform satisfactory results, confirming our claims for the advantages of administering this deservedly favorite combination in solution over pill form. Owing to the intensely bitter taste of the solution or the syrup, patients very generally object to them, and many sensitive stomachs reject their administration. Physicians of experience hesitate to prescribe in powder or mass either Quinine or Strychnia, from the want of prompt action, the frequent passing away from the system, undissolved and the occasional cumulative action of the Strychnia, when the pills are long retained. While this is a grave objection often noted in such powerful medicinal agents, it is equally true that solutions of Iron are not only much more efficient, being assimilated and absorbed with little danger of inducing irritation, as is so often the case when given in pills. Using pure alkaloids of Quinia and Strychnia, *the excess of acid* is not required, avoiding in this way the development of the bitter taste, enabling us to prepare the Elixir so that it will be readily taken by children as well as adults. We cannot exaggerate the therapeutic advantages of administering this prescription in the form we present it and feel we have a right to ask medical men to direct our manufacture of this preparation, not only because we first prepared it, but from the fact that Physicians can feel every assurance of the care and exactness of its manufacture, and that there is *one grain* of Quinine in each teaspoonfull, a strength not possible at the price this Elixir is sold by many manufacturers. We have always carefully avoided exploiting or in any way introducing this or any of our preparations except through Druggists and Physicians.

Each fluid drachm contains two grains of Phosphate of Iron, one of Quinine, and one-sixtieth of a grain of Strychnia in simple Elixir flavored with Oil of Orange.

ADULT DOSE,—One teaspoonful three times a day.

ELIXIR GUARANA.

PAULLINIA SORBILIS.

Guarana is used with much benefit in cases of Sick and Nervous Headache, Neuralgia, Diarrhœa, Gastralgia, etc.

The active principle is analogous to Caffein, being found in Paullinia in five times the quantity that it exists in the best Coffee. The tonic influence allied with the stimulating effect renders it an exceedingly valuable medicine

As its use has proven the entire absence of any irritating properties or astringent effect in Debility, Languor, Protracted Convalescence and Nervous Irritability, it is specially useful.

The effect is almost immediate in all cases of Headache, from whatever cause it may arise; but it is more especially beneficial in those produced by over excitement to the nervous system.

The usual mode of administration has been in powder; but the Elixir will be found not only more agreeable, but much more efficacious.

Each fluid ounce contains eighty grains Guarana

FOR HEADACHE,--dose, a tablespoonful for an adult, to be repeated in an hour, if the first dose does not give relief.

FOR DIARRHŒA,--a desertspoonful morning and evening.

FOR NEURALGIA, as a General Tonic for NERVOUSNESS, DEBILITY, etc.,--adult dose a desertspoonful three or four times a day.

NOTE.--There are many Elixirs of Guarana manufactured of much less strength than that prepared by us. If Physicians will specify our preparation they can rest satisfied they will not be disappointed in the effects we claim.

Physicians will find our preparations in all the whole-sale and leading Retail Stores in the United States and Canada.

JOHN WYETH & BRO., Chemists, Philadelphia.

ANIMAL

Vaccine Virus,

PROPAGATED AT THE

MISSOURI VACCINE FARM.

The *Missouri Vaccine Farm* was established in 1875, for the purpose of supplying physicians with a *pure* and *reliable* Vaccine Virus from the heifer, in quantities to suit the demand. Each animal used is under my immediate supervision, from the time it is brought on the farm until the Virus is collected from it, so that the greatest care is exercised in producing a Vaccine that will reproduce *genuine vaccinia* upon the human being.

Four years of close observation and experience in preparing the Virus from the Animal, and a visit to the State Vaccine Institutes at Brussels, Belgium, and Paris, France, in 1878, where *only* cowpox Virus is used, have enabled me to so perfect my arrangements for producing the Virus that I can supply the largest demands.

The *past success*, the *more general use* of the Virus, and the *encouraging testimonials* of physicians from different sections of the country, warrant me in continuing the enterprise.

QUILLS.—Of the various forms of Virus supplied physicians, that *dried* on *quills* has proven the *most reliable*, and therefore is especially recommended.

Five *whole quills* are put up in an air-tight package (sufficient for 10 vaccinations) sold for $1.00.

R. M. HIGGINS, M. D.

PRICE LIST:

Whole Quills, (each sufficient for two vaccinations) each..... .25

Five Whole Quills, (sufficient for ten vaccinations)..... $1.00

A fresh supply of this Vaccine will be received every few days, and only *fresh Virus* will be sent out.

All failures duplicated when used strictly in accordance with printed directions, which accompany each package.

All orders by mail or telegraph will receive prompt attention. Address

ST. LOUIS MEDICAL AND SURGICAL JOURNAL,

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Dr. Arthur, of Edgar's Spring, reported a case, extraordinary in many of its features. The patient died, and a post mortem being denied, the diagnosis was wrapped in doubt. Dr. Arthur did not express any opinion as to the diagnosis. Many of the members who expressed themselves, thought that it was phlebitis. Prof. Bauer spoke of the importance of post mortem examinations and the means of obtaining permission from friends of the dead.

Dr. Fetzer gave his views at length upon phlebitis, and spoke of several cases which he had treated while surgeon in the Union army during the late war.

Prof. Bauer spoke of the dangers of thrombosis and emboli, as a result of phlebitis, and recited several cases where amputation was resorted to in order to save life where the arteries were involved. He thought Dr. Fetzer's case was a case of inflamed lymphatic glands of the arm instead of phlebitis, as "felons" seldom produced such effects. Dissection wounds did not produce phlebitis, but inflammation of the lymphatics.

Dr. Coffee, of Steelville, Mo., reported a case of calcareous degeneration of the cerebral arteries in a man 60 years old. Quite a lively discussion followed, in which Drs. Gibson, Fetzer, Coffee and Bauer participated.

Dr. Gibson said he had seen the case, reported by Dr. Coffee, frequently, and regarded it as one of general atheromatous degeneration with progressive softening of the brain and atrophy. The arteries on the forehead were visible and very tortuous, while all the accessible ones felt like a wet quill. The man had loss of memory, aphasia and semi-hemiplegia. The sensory nerves were partially paralyzed. You might stick a pin through the skin and it would be thirty to forty seconds before sensation would be experienced by pain.

Prof. Bauer said that there were, no doubt, small blood clots scattered throughout portions of the brain, which accounted for all the symptoms detailed, and when a large one formed it would kill the man.

Dr. J. E. Thompson introduced a man, aged 26 years, with hydrarthrosis of the left knee-joint, of six months' standing; the synovial trouble was of a subacute variety, and had not caused much pain. The trouble he attributed to cold, and not to the so-called scrofulous diathesis. He had been treating the case, which was sent to him by his friend, Dr. M. Godbey, of Salem,

Mo., for five weeks. He had immobilized the joint in a straight position by means of plaster bandages and leather splints. The joint would have to be punctured, and requested Prof. Bauer to perform the operation before the Society, as he had delayed the operation for that purpose.

The Professor applied a flannel bandage from the foot tightly to about the knee joint, so as to force the fluid into the cul-de-sac above the patella, and while the patella was forcibly pressed upward and backward against the condyles of the femur, he introduced a trocar; three or four ounces of an alkaline serum came out forcibly. The joint and limb were allowed to remain tightly bandaged with the flannel for twenty-four hours, and the patient to keep the foot well elevated. Dr. Bauer gave a good clinical lecture upon the pathology, diagnosis and treatment of joint troubles, which was highly appreciated by the Society.

On motion, the Society went into the election of officers, which resulted as follows:

President, Dr. T. J. Coffee, of Steelville, Mo.; Vice-President, S. F. Arthur, M. D., of Edgard's Springs; Secretary, J. E. Thompson, M. D., of Salem, Mo.; Treasurer, M. Godbey, M. D., of Salem, Mo.; Corresponding Secretary, L. B. Craig, M. D., of Salem, Mo.

A Committee was appointed to conduct the President elect to the chair. After a short address from Dr. Coffee, the Society proceeded to business.

On motion, Prof. Louis Bauer, M. D., of St. Louis, and Dr. S. S. Harris, of Cape Girardeau, were unanimously made honorary members of the Society. Dr. Bauer made a short, pithy speech in return for the compliment paid him by the Society.

After the report of the Treasurer was received, the Society adjourned to meet at Steelville, Crawford Co., Mo., in November, 1880.

JESSE E. THOMPSON, M. D., Secretary.

A New Medical Society.

At a meeting of physicians of Morgan and Moniteau Counties, at Tipton, Mo., July 14th, 1880, for the purpose of organizing a District Medical Society, a permanent organization was effected by the election of Dr. O. A. Williams, of St. Martin, Mo., as President, and Dr. W. S. Allee, of High Point, Secretary and Treasurer.

A committee consisting of Drs. J. W. Brent, H. W. Latham, J. W. Norman and S. H. Redmon, was appointed to suggest a name for the society, and to report rules and regulations for its government.

The committee reported the following preamble and resolutions:

Whereas, It has been our pleasure, as well as many other physicians who will likely become members of our society, to have attended the lectures, always profitable because practical, of the late lamented Prof. John McDowell; and,

Whereas, We recognize in his death the loss of a valued friend, and a noble exponent of active advancement in medical and surgical science; therefore be it

Resolved, As a slight tribute to the memory of deceased, and as an evidence of the esteem in which he was held by us while living, that we name the society "The John McDowell Medical Society."

Resolved, That we adopt the code of ethics as recommended by the American Medical Association, and for the government of the Society, the constitution and by-laws of the Cooper County Medical Society.

Resolved, That we meet in Tipton, Mo., on the fourth Wednesday in each month.

The report of the committee was unanimously adopted.

An interesting discussion on the treatment of dysentery, and blood letting as a remedy for the control of acute inflammations, was participated in by several gentlemen.

Dr. J. W. Brent, of Tipton, and Dr. L. F. Diefendorf, of Clarksburgh, were appointed to prepare papers to be read and discussed at the next meeting.

On motion the Secretary was instructed to prepare a copy of the proceedings for publication and tender the same to the St. Louis Medical and Surgical Journal with a request to publish.

The Society adjourned to meet again on the fourth Wednesday in August, at Tipton, Mo.

W. S. Allee, M. D., Secretary.

Clinical Reports from Private Practice.

CASE OF TREPHINING THE SKULL, FOR THE RELIEF OF TRAUMATIC EPILEPSY. By D. N. RANKIN, A. M. M. D., Allegheny, Pa.

Charles H. Poole, male, white, 34 years of age, born in France, unmarried, and by occupation a butcher; complexion, eyes and hair, dark.

In October, 1857, he was regularly enlisted in the Fourth United States Artillery; served five years in it; then re-enlisted in 1862 in Washington, D. C., in the Third United States Mounted Rifles; whilst on duty in the rear of Petersburg, Va., May 9, 1864, he was struck upon the forehead by a minnie ball, and lay for some hours upon the ground in an insensible condition, before reaction supervened. He was then carried to the Cavalry Corps Hospital, at City Point, Va., and upon examination, there was found to be considerable indentation of the skull at the wounded point. Symptoms of compression being present, the surgeon in charge of the hospital at once performed the operation of trephining upon him, which relieved the violent symptoms, but did not completely cure him. He remained at the hospital for sixteen days. One night, in his anxiety to rejoin his regiment, he stole off from the hospital, unauthorized by the surgeon, returned to his regiment, and resumed his regular duties as a private, served out the full term of his second enlistment, and was honorably discharged in May, 1865.

About one year after his final discharge from the army, he commenced to lead a wild and intemperate life. In June, 1866, the first convulsion of an epileptic character occurred, and after that one fit occurred every three months, for the first year, then they became more frequent, until finally they recurred every tenth day, and, within the past six months, they have been coming on so frequently, that he had become tired of living, and frequently earnestly requested me to cut down and remove the depressed portion of the bone. This I would not undertake unless, upon consultation with some other surgeon, it should be considered justifiable. On may 25th, Dr. John Dickson, Sr., an eminent surgeon of Pittsburgh, Pa., was called in consultation. After having heard the history of the case and carefully examining the condition of the patient, I was pleased to find that his diagnosis agreed in every respect with mine, and that, therefore, in his opinion, no medical treatment could be available, and the only chance of curing the disease would be the removal of the affected portion of bone from the skull.

Therefore, on June 10, at nine o'clock, assisted by Dr. Dickson, I proceeded to remove the portion of depressed bone. On the day previous to the operation, I ordered his nurse to give him a dose of sulphate of magnesia, and have the hair from the front part of the head cleanly shaved off. During the operation he laid upon a table, on his back, with head and shoulders resting upon a hard pillow. Chloroform was administered, and it was after some considerable trouble and delay, that perfect anæsthesia was procured.

The bone was exposed by a crucial incision a little to the left of the frontal sinus; the length of the perpendicular cut was about three inches, and that of the transverse one was about two inches. The incisions bled quite freely; the flaps were carefully dissected up, and great care was taken to remove the pericranium. It was necessary to use the trephine four times in order to sufficiently remove the depressed bone. The point trephined first was a little to the left of the frontal sinus; the second place trephined was a point about one and three-fourths inches to the left of the first; the third about two and one-half inches higher up the forehead, and the fourth directly above the first, the same distance from the first as the second is from the third. Then, in order to remove the oblong piece of bone, Hays' saw came nicely into use. In this way, we succeeded in removing a section of bone, say two and a half inches long, by one and three-fourths of an inch wide. It required the greatest care and patience to separate the membranous lining of the skull.

The removal of the depressed bone brought to view a nipple-shaped piece of bone, protruding from the internal surface, which undoubtedly was the sole cause of the trouble. The flaps were drawn together by adhesive plasters, allowing the lower end of the perpendicular cut to remain open for the exudation of any pus that might form. The dressing consisted in the application of carbolized water alone.

June 11—Slept quite well during last night; quiet most of the day, the effects of opium taken last night. In the evening about 8 o'clock, had an epileptic convulsion, but much lighter than usual. Pulse, 72. Diet, tea and toast.

June 12—Rested pretty well through last night. Pulse, 74. Rested well throughout the day; gave a dose sulphate of magnesia in the evening; complains of considerable pain in head, and is somewhat restless; at 9 o'clock P. M. gave him 30 drops tr. opium; diet, same as yesterday.

June 13th—Rested well through the night; bowels opened at 2 o'clock, P. M., pulse 72; being very restless at 8 P. M., gave him 30 drops of tincture of opium; he went into a calm sleep. Diet, tea, toast and beef tea.

June 14th—Has slept well through the night; pulse 65, the incisions are healing very rapidly; bowels again moved, opiate

given at 9:30 o'clock P. M.; up and walking across the floor, Diet, tea, toast and mutton broth.

June 15th—Rested very well last night, pulse at 9:30 A. M. 65, feeling, as he stated, pretty well, though contrary to orders, he walked across the floor several times this day; at 8 o'clock P. M. gave his opiate, and he quietly went to bed. Diet, bread and milk, tea and toast.

June 16th—Everything passed off very well during last night slept well. Pulse 72; up and remained up and about most of the day. Diet, beef tea, bread and milk.

June 17th—Rested well all night, and feeling well this morning; pulse 72; up and walking around the room, and when the nurse was occupied elsewhere, he slipped down into the yard. Bowels regular, and appetite good, indeed too good. The incisions are healing rapidly. Diet same as yesterday.

June 18th—Not quite so well this morning, yet will be about down stairs. Pulse same as yesterday. Complains of some heat in the head, gave opiate at bedtime. Diet, soft boiled egg, beef tea and coffee.

June 19th—Rested pretty well last night; eyes and forehead greatly swollen; positive orders given to keep him very quiet Pulse 72, opiate at bedtime gave dose sulphate of magnesia. Diet, same as yesterday.

June 20th—Rested well last night, salts operated twice freely this day he is restless, and it is impossible to keep him in bed or quiet. Pulse 72, Diet, same as yesterday.

June 21st—Was quite restless last night; wound feels sore, an abscess discovered under the cicatrix; a free incision, let out a large amount of pus. Pulse 78; in the evening gave Potass., bromid, grs. xv. Diet, same.

June 22d—Slept well last night, found the incision that I had made yesterday to let out the pus completely closed, it was re-opened, and a large quantity of fluid of a sero-purulent character discharged; in order to keep the incision open, and allow the discharge exit, a tent was introduced. Pulse 72, gave potass. bromid, grs. xi, at bedtime. Diet, same.

June 23d—Was quite restless last night; slept by spells; pulse 75. Up and down stairs, impossible to prevent him from running about, gave bromide of potash, xi grs., at bedtime. Diet, tea and toast.

June 24th—Slept very well last night; feels considerably better this morning; agreeably to orders, kept his bed all day; pulse 72. Diet, same as yesterday.

June 25th—Conditions the same as yesterday.

June 26th—Slept very well last night; to-day he is running around the yard; eats everything he gets hold of; pulse 74.

June 27th—Rested well last night; and from this date, up to July 9th about the same, up and down in the yard, as much so as though entirely well; whilst in the yard at 1 P. M. on July

17th, had a slight fit from that until July 30th, no occurrence of a regular fit has occurred, though quite taciturn, cross and morose.

He having removed from this vicinity, I lost track of the case until June 3d 1869, when he made his appearance at my office, and reported himself as getting along very well, having had no decided fit since the operation, but has never fully recovered his memory.

Tracheotomy in Croup. By J. A. Matthews, M. D., of Ashley, Mo.

About 11 o'clock on the night of November 26, 1879, I was called to see Minnie Hughs, aged six years, who had been sick some four days with symptoms of croup. The parents not regarding it dangerous had neglected to call in aid until the fifth night, when the symptoms became alarming and I was called in. Found patient breathing with great difficulty, lips livid and great distress of countenance. Inspecting the throat I found I had a genuine case of membranous croup to deal with. Being convinced from a sad experience with the same disease a few years ago that medicine promised very little in this case, I concluded that tracheotomy was the only thing that did. Gaining the consent and co-operation of the parents, I sent a messenger to Dr. J. W. Rodgers, of Bowling Green, seven miles distant, requesting him to come and bring his tracheotomy tubes, and operate for me, he having performed the operation once before; the patient, however, being moribund, died on the table. He came, but found, to our dismay, he had left his tubes. Of course we had to send back for them, all of which was consuming what was to our patient precious time.

In the meantime I sent for Dr. Hanna, of Ashley, who came and rendered valuable and substantial assistance. On account of this delay it was 10 o'clock, November 27, before we were ready. By this time the patient presented symptoms which gave us very little hope. The day was dark and stormy, house badly lighted, and the patient possessed a short thick and very fleshy neck. In short, the operation was performed under adverse circumstances. Having gotten the patient fully under the influence of chloroform, which she took badly, the Dr. divided the tissues very carefully and dextrously down to the trachea and waited for all hemorrhage to cease. On opening the windpipe a good sized piece of membrane was forcibly expelled. During these expulsive efforts the tenaculum with which the Dr. was holding the trachea loosed from its moorings and before we could possi-

bly reinsert it and introduce the tube the patient lost several breaths, and being fully influenced with chloroform, death seemed imminent, so much so that friends and bystanders suggested that we desist from efforts to resuscitate, which we failed to act upon, however.

By persisting in the use of flaggellations with wet towels and the use of artificial breathing for some half hour, we had the pleasure of seeing our patient begin to breathe through the tubes in the neck. She rallied well and in a short time she took some milk. We left the tube in the trachea for some twelve or fifteen days, when she was so far recovered as to be able to breathe some through the natural channel. Her voice returned entirely and now she is as well as she ever was, having visited my office, and with the exception of a small cicatrix looks as if nothing of the kind had ever happened. Now a word or two in regard to the success of the operation. My impression is that it was due in the first place to the dexterity with which it was performed, and to a very great extent to the subsequent treatment and management of the case. We so managed our business that the patient was not left without a medical attendant for perhaps a week or more, and I believe had she been left to the care of inexperienced nurses the result would likely have been different, and basing my belief on this case and what I have read of the fatality of other cases some days after the operation, I think the bad results of tracheotomy are frequently due to the neglect of the patient subsequent to the operation. The membrane will accumulate in the tube until the calibre is too small to admit sufficient air to sustain life and the patient dies from suffocation just the same as if no operation had been performed, and while we cannot forcibly remove it from the windpipe we *can* and *should* forcibly remove it from the tubes, and it is rare to find a nurse whom we can depend on to do it. I deem it proper here to state that a younger sister of the patient developed all the symptoms of croup during the progress of this case, but meeting with prompt and vigorous treatment from the start, she recovered without such grave symptoms. The treatment adopted both before and after the operation was mainly to keep a cloud of lime water vapor in the room almost constantly, to give inhalations of lactic acid dilute, and aqua ammonia very dilute, by means of the steam atomizer, the tube of which we directed to the tube in the trachea.

The younger sister, a mere babe, soon learned to "draw" from the atomizer, almost without assistance whenever her breathing became difficult, chlorate of potash with tonics and stimulants internally. To sum up briefly: I believe the operation should be performed as soon as we think the patient's life is in jeopardy, that it should be performed early, and that the after management and treatment of the case should be particularly well attended to under the supervision of the medical attendant or educated nurse.

Correspondence.

A Plea for Medical Statistics.

COLLINSVILLE, Ill., July 15, 1880.

ED. JOURNAL:— The great want of the day in every branch of science, and particularly that of medical science is "*data.*" Of speculation we have plenty, but of *carefully selected data* there is a lack such as no other country of equal importance can compare.

The American Medical Association and all our State Associations report to us every year through their committees on the practice of medicine, interesting reports it is true, but of what value are they so far as representing the history of disease that has prevailed in our land? They do little more than represent the experiences of their writers or at least some hospital. We noted in the meeting of our last State Association that the chairman of our most important committee was compelled to base an important question referred to his committee on the experience of *thirteen* physicians. He was evidently a practical as well as a thoughtful student of pathology. I felt the inadequateness of this history, for he stated he had gone to the trouble of writing to some two hundred physicians and thirteen replies was the result, and right here we wish to say that of all quiet mortals we ever came in contact with doctors are the most so on this question of correspondence. They can quietly "pigeon hole" your "query" and "forget" you with a coolness that would win them a reputation in other fields.

In this State (Illinois) we have our State Board of Health Statistics which *will* be of great value and other States are falling into line; but they do not fill the measure of our wants, for their reports cover only two classes from which we desire a history (births and deaths). The *recoveries* are not heard from; so also the *form* of disease prevailing, or any of its *peculiarities*

so interesting and profitable to follow, and out of which is yet to come perhaps the knowledge of the cause. Now we will be truly thankful for all the State Boards of Health propose to give us, and will only ask that as fast as they may be able to carry the people (I might add the profession also) with them in their work that they extend the line of their inquiry. Meantime let us try to supply this deficiency by means of our local societies. Let each society appoint at least *two* committees as follows:

1st. A committee on the state of disease, whose duty it shall be to give at stated times as complete a reflection of the history of disease within the boundaries of their society as may be possible.

2nd. A committee on meteorology, who shall report on the climatical condition, that may be supposed to affect disease, observing (for the sake of uniformity) the rules of the U. S. Signal Service. Let the best men be selected for these committees; by this we mean men who possess sufficient energy, patience and enthusiasm to see this work well done. If all our county societies (our cities are usually better looked after) would adopt these measures and then have the results *published* and *preserved* we certainly would have a very much better basis on which to form our theories of disease than is now possible, and our societies would certainly *not* have lived in vain; and as the years roll by we could feel that we have been instrumental at least in giving a foundation for the great facts that are coming to our profession.

I never refer to the "Meteorological Tables" that your Dr. Engelmann has so patiently and faithfully collected all these years (since 1838) and which are invaluable to us now, without a feeling of admiration and gratitude. Would we had more Dr. Engelmanns.

J. L. R. WADSWORTH, M. D.

OSWEGO, Kansas, June 23, 1880.

ED. JOURNAL:—Last fall my attention was directed to the galls on the leaves of the common Quercus Macrocarpa, Mx. in the woods.

Every physician perhaps is aware that a hymenopterous insect called Cynips stings the leaf and other parts of plants. This produces a tubercle or gall in which the larva lives, and when fully matured the imago eats out and escapes.

There is so close a relationship between the plants and animals of the earth, or the flora and fauna that I suspect a similar cause operates to produce tubercles in our frail bodies. If so antiseptics and insectifuges should be our treatment for consumption. The leaves are the pulmonary organs of plants and we can see the hymenopters that tubercularize them. In our lungs the animalcula or entozoa producing the tubercles may be beyond our vision and even beyond the microscope.

W. S. NEWLON, M. D.

ST. LOUIS, June 11, 1880.

EDITOR JOURNAL: — Please insert in your next issue the following: After the publication of my paper on "Thrombosis of the Coronary Artery of the Heart," I have ascertained that a complete translation of the report of Dr. A. Hammer (mentioned therein) has been published by Dr. A. Berger, of Lebanon, St. Clair county, Ill., in the monthly journal of the Southern Illinois Medical Association, May, 1878.

DR. A. WISLIZENUS.

OAK LAWN, TEXAS, 1880.

EDITOR JOURNAL: — I have read with great interest the discussion of the St. Louis Medical Society, published in your issue of January 5th, as to whether *any* diseases can be said to be self limiting. If it would not be considered presumptuous in a "country doctor" to interfere in a discussion among the wise men, gathered in the metropolis of the West, and said by a friend to constitute the ablest local society on the continent, I would suggest, that to me it has seemed that some diseases, such as measles, small-pox, etc., bear a very striking resemblance in their history to annual plants, of which the seed is planted; then follows in regular order periods of incubation, germination,

growth, maturation, death and decay. I have yet to hear of a turnip or a radish which has continued to live after the first four periods had been passed, even though furnished with plant food in unlimited amounts and continued under the most favorable climatic conditions. Do not this order of sequence and limit of duration hold good, even though the attacking and resisting forces be ever so well balanced. Respectfully,

RUSTI CUS.

EAST ST. LOUIS, June 15, 1880.

EDITOR JOURNAL: — There is a subject I would like to call the attention of the profession to, and I know no better way than through your JOURNAL. I refer to the practice of opening the meetings of our various medical societies by prayer. This seems to me a very foolish thing, and I can hardly imagine how —even those who have faith in the efficacy of prayer—can advocate this practice when they observe how little reverence or regard is paid to the exercise. It is generally had at the beginning of the first session when but few members have arrived; the secretary is busy at his desk; others are shaking hands and beginning to speak of "bad cases;" the President alone bearing the burden of a solemn countenance and attitude of reverence. And these prayers are generally mere lectures to those present. A little over a year ago the chaplain *pro tem*, at the opening of an important medical society, prayed that "every member of the medical profession might be so imbued with the Spirit as to speak words of consolation to their dying patients." And much more of this kind of stuff. I hope the various committees of arrangement will take this matter under advisement and vote it down and out. H. C. FAIRBROTHER.

Editorial.

DR. TANNER, OF NEW YORK.

The public attention has of late been attracted by a man, whose achievement is heralded far and wide by the daily press. Dr. Tanner, now in New York, is certainly a wonderful man. He has gone through the ordeal of fasting for forty days, and is repeating it to settle the doubts of unbelievers. He is under the closest scrutiny and is not permitted to touch anything unless it be previously examined. His mail is examined when it arrives, his clothes are examined daily, people that come to see him are narrowly watched.

Despite all these precautions he has been accused of fraud and trickery, but proof has not been forthcoming. We cannot doubt but that he is honestly fulfilling his promise. Here to-day (July 22), is the twenty-fourth day of the fast, and he has lost about twenty-five pounds in actual weight. His pulse and temperature have not, as yet, varied greatly from the normal, and his spirits are good.

There is no doubt whatever, that Dr. Tanner is a most wonderful man, full of nervous energy and capable of great will-power. Now comes the question, of what use is this experiment? It is a very curious fact to establish, but beyond that, it will hardly find use. It will confirm nothing, disclose no new truth that would be serviceable. We simply learn from it that Dr. Tanner can fast a certain number of days. That any one else can do so or not, can only be known by actual experiment. The first time that Dr. Tanner did this thing, many doubts were expressed as to the genuineness of the attempt, and as to the

honesty of those concerned in it. This time, although almost every possible precaution has been taken, the same suspicions are cast.

Evidently there are men who are determined not to believe him, and who say that they are convinced there is trickery, but can not prove it.

Dr. Tanner is being closely watched by his friends, at present, as they are daily expecting his pulse and temperature to fall suddenly He may perhaps pay with his life for such a foolhardy experiment.

MADISON COUNTY (ILL.) MEDICAL SOCIETY.

This Society meets at Edwardsville, Ill., on the 27th of this month. It is anticipated that there will be a large and interesting meeting. Every physician in the county should attend and become a member. No practitioner can keep up with the present rapid progress of medicine unless he attends medical societies and reads medical journals.

NEW JOURNALS.

The "*Gazzetta degli Ospitali*" is a new semi-monthly which has appeared in Milan, Italy. It contains about fifty pages per number, and is neat in typography and altogether well gotten up. The editors are well known in Italy, and the Journal reflects credit upon them.

Dr. F. W. Wesseler has been appointed a member of the U. S. Board of Examining Physicians for our district. All pensioners must be examined by this Board.

Obituaries.

PROF. RIZZOLI.

We are called upon to chronicle the sad news of the demise of Prof. Rizzoli, of Bologna. He was a man of most liberal tendencies and universally respected as much for his social qualities as for his scientific attainments. Just previous to his death he made a donation of 1,250,000 francs to the city of Bologna, to be donated to the erection and maintenance of an Orthopædic Institute. He was 70 years old at the time of his death.

GIOVANNI POLLI.

Giovanni Polli, another eminent foreigner, has departed this life. After a long and tedious illness he died on the 14th of of June, in the 67th year of his life. He was born in Milan in 1812, graduated in medicine in 1837, and in 1839 was assistant professor of chemistry in the Lyceum of St. Alexander. He gradually rose until in 1860, he was appointed Professor of Applied Chemistry in the Royal Institute of Technology. Among all his numerous and important works may be mentioned his investigations on diseases of fermentation origin (1860-62), with his observations of the action of sulphurous acid and sulphites on zymotic diseases, which he submitted to the Congress held at Dublin in 1867. Also the anti-fermentative influence of boracic acid, its therapeutical applications sprung from his pen. His researches were always characterized by the ardor which he endeavored to arrive at *true* results.

DR. CORRIGAN.

Dr. Corrigan, born in Dublin in 1802, Rector of the University of Dublin, and member of Parliament, who was chiefly known by his works on the pathology of the heart, died lately at the age of 78. He was noted especially for his investigations in regard to aortic insufficiency.

METEOROLOGICAL OBSERVATIONS.

By A. WISLIZENUS, M. D.

The following observations of daily temperature in St. Louis are made with a MAXIMUM and MINIMUM thermometer (of Green, N. Y.). The daily minimum occurs generally in night, the maximum at p. m. The monthly mean of the daily minima and maxima added and divided by two, gives quite a reliable mean of the monthly temperature.

THERMOMETER, FAHRENHEIT—JUNE, 1880.

Day of Month.	Minimum.	Maximum.	Day of Month	Minimum.	Maximum.
1	59.5	68.5	18	66.0	83.5
2	**59.0**	75.0	19	70.0	85.5
3	60.0	79.5	20	65.0	87.5
4	61.5	73.0	21	67.5	88.5
5	70.5	85.0	22	70.0	91.0
6	63.0	79.0	23	71.0	93.0
7	60.0	77.0	24	76.0	85.0
8	67.0	80.5	25	72.0	88.0
9	69.0	89.0	26	73.0	91.0
10	73.0	93.0	27	69.0	85.5
11	75.0	93.5	28	67.0	78.5
12	77.0	**94.0**	29	65.0	81.0
13	77.5	91.0	30	64.5	83.0
14	77.0	93.5			
15	65.0	68.0			
16	59.0	81.0	Means	67.8	
17	64.0	84.0	Monthly Mean	76.0	84.2

Quantity of rain, 2.43 inches.

MORTALITY REPORT.---CITY OF ST. LOUIS.

FROM JUNE 13, 1880, TO JUNE 26, 1880, INCLUSIVE.

Gangrene	1	Leucocythæmia	0	Convulsions & Trismus Neonatorum	24	Aneurism	1
Measles	8	Inanition, Want of Breast Milk, etc.	7	Hydrocephalus and Tub. Meningitis.	7	Apoplexy	5
Syphilis	1	Alcoholism	5	Meningitis & Encephalitis	33	Cyanosis and Atelectasis	0
Scaylatina	2	Rheumat'm & Gout	0	Other Diseases of the Brain and Nervous System	20	Premature Birth	0
Pyæmia & Septicæ	4	Cancer and Malignant Tumor	5	Cirrhosis of Liver and Hepatitis	3	Deaths by Suicide	4
Erysipelas	0	Phthisis & Tuberculosis, Pulmon.	27	Enteritis, Gastro-Enteritis, Peritonitis, and Gastritis	10	Deaths by Accid't	8
Diphtheria	1	Bronchitis	7	Bright's Disease and Nephritis	2	Deaths by Homicide	
Membran's Croup.	0	Senility	5	Other Diseases of Urinary Organs.	2	Congen Defor'ty	14
Whooping Cough.	3	Pneumonia	7	Carries	1	Total Deaths from all Causes	366
Proas Abscess	2	Heart Diseases	5			Total Zymotic Diseases	149
Cholera Infantum.	88	Other Diseases of Respir'y Organs	5			Total Constitutional Diseases	62
Typhoid Fever	4	Metro-Peritonitis.	0			Total Local Diseases	124
Cerebro Spinal Fe.	3	Marasmus—Tabes Mesenterica and Scrofula	21			Total Develop'tal Diseases	19
Remittent, Intermittent, Typho-Malarial, Congestive & Simple		Vermes	1			Deaths by Viol'ce	12
Contin'd Fevers,	8						
Puerperal Fevers	2						
Diarrhœal Disea's	12						

CHAS. W. FRANCIS, *Health Commissioner.*

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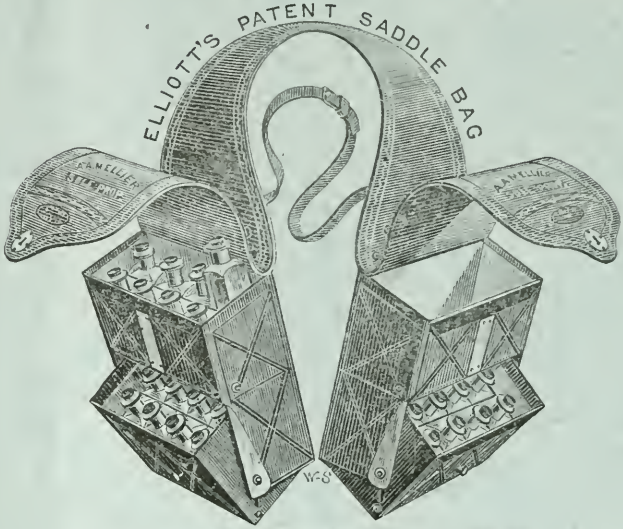

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Although comparatively a safe anæsthetic, we would still advise care in its use by those unfamiliar with its properties, and will be pleased to furnish circular containing report of case by Dr. J. Marion Sims, in which dangerous effects followed its use.

Jamaica Dogwood. (PISCIDIA ERYTHRINA.) The reports which have already been received of the effects of this drug more than justify our action in placing it before the profession of this country. Making due allowance for the enthusiasm which its action has aroused, we would only say, that whereas, we a short time since merely asked the profession to submit it to a trial, we are now justified in recommending it as a substitute for opium in many painful affections. Its advantages over opium lie in its not constipating or locking up the secretions, and in its leaving none of the unpleasent constitutional effects associated with the administration of opium.

Manaca. (FRANCISCEA UNIFLORA.) This drug is officinal in both Brazilian Dispensatories in which it is classed among alteratives of the more active and positive kind. So marked is its effects in the syphilitic cachexia, that it has been called *mercurio vegetal* by the Brazilians. It is recommended also as an anti-rheumatic, relieving the pain and materially shortening the natural course of the disease.

We ask for it a thorough trial, under the belief that it will prove a valuable addition to the list of remedies commonly employed in rheumatism. It is regarded by the Brazilians as almost a specific in the chronic form of the disease.

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